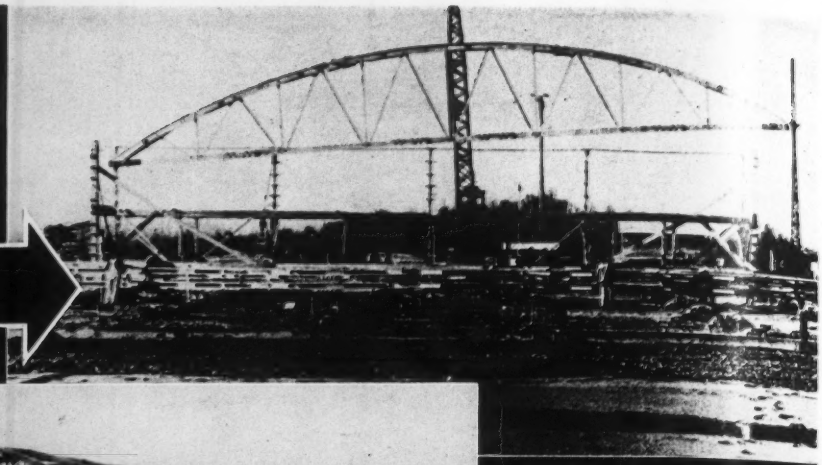
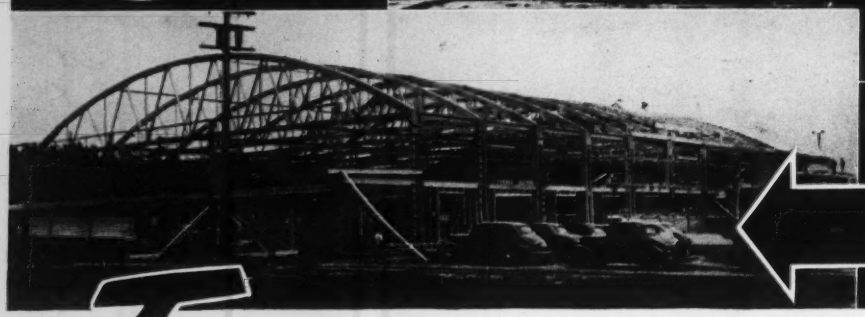
ENGINEERING NEWS-RECORD

Trusses go into place to carry trunnions of Chicago State St. Bridge over subway tubes—See p. 2.

Thursday
3:30 P. M.





Monday
4:30 P. M.

Timber DID IT
IN ONLY 32 HOURS!

Twelve 130-foot roof trusses of the Oregon Shipbuilding Corporation's great, two-story mold loft were swung into place by four 8-hour shifts of workmen. Only timber could set a speed record like that . . . only completely prefabricated timber delivered to the job ready for assembly.

The TECO Connector System of engineering produced this time-saving job; and TECO Connectors have created a wide, new range of structural uses for timber in modern building.

Have you a building problem involving immediate, emergency structural expansion? Forestall building supply bottlenecks—complete the job at a new "low" in cost . . . Mail the coupon now for detailed data on the TECO System of timber prefabrication. Send it today!

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Please send us complete information on the TECO Connector System of timber construction.

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The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • JULY 24, 1941

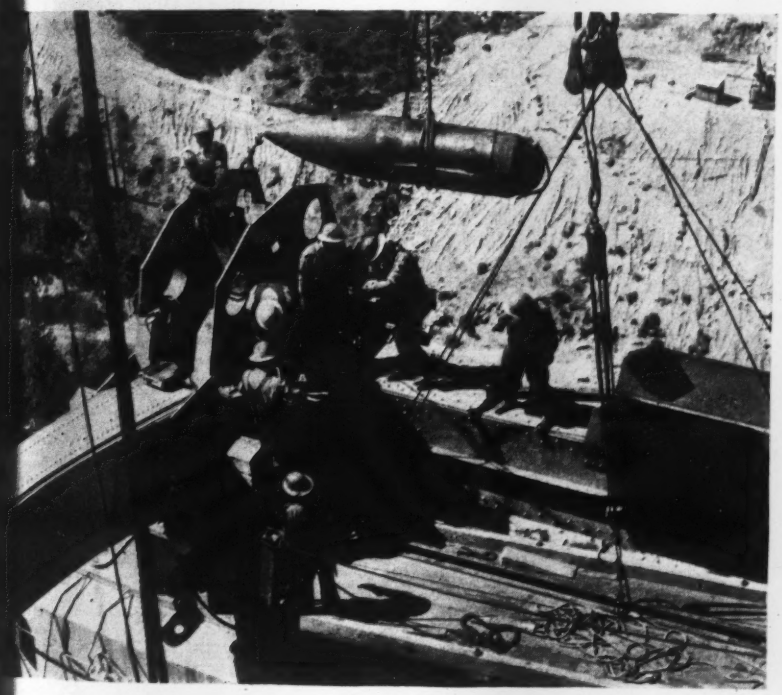
Great power expansion proposed to President

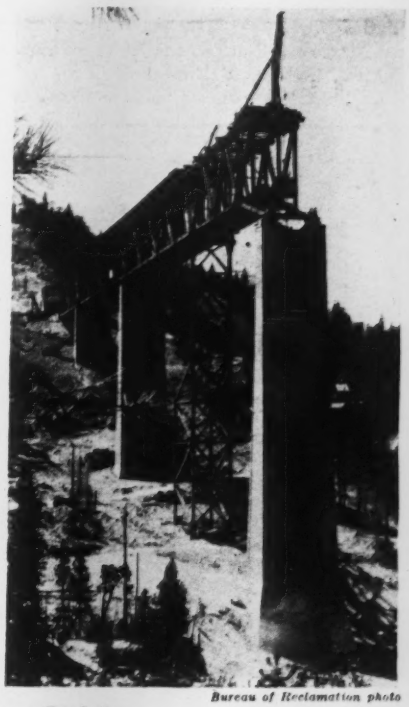
Federal Power Commission recommends a 4-yr. program to add one and one quarter million kilowatts of public hydro power a year to private expansion program.

To meet defense needs for electric power, the Federal Power Commission has proposed to President Roosevelt a program of installing one and one-quarter million kilowatts a year of hydroelectric power during the years 1943–46. This would involve expenditure on dams and powerhouses by the Corps of Engineers, Bureau of Reclamation, TVA, and other agencies, of about $170,000,000 a year during the next five years, exclusive of electrical equipment. The projects covered by this program are given in the table on p. 15. As outlined there, a total of 1,250,000 kw. would come into service in 1943, 1,275,000 kw. in 1944, 1,130,000 kw. in 1945 and 1,320,000 kw. in 1946. The St. Lawrence power project is included and it is assumed that 550,000 kw. will be available in 1944, thus cutting still closer the time estimated for completion of the major structures required for that project. Many of the other projects included are power installations at dams proposed as part of the flood-control program contemplated under the Flood Control Act of 1938.

In addition, the program contemplates installation of some 2,500,000 kw. of steam capacity annually during the years 1943–46, mostly by the private utilities. A tentative list of the steam stations to be built under the proposed expansion program was made public by

(*Continued on page* 15)





Bureau of Reclamation photo

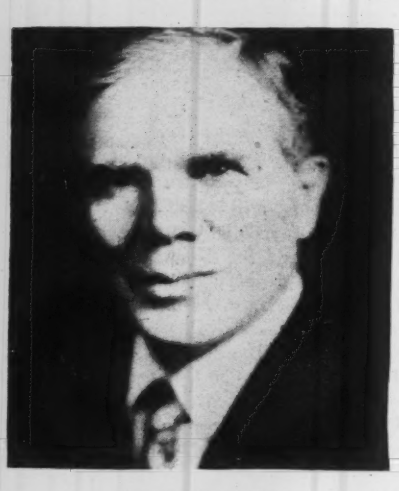
Big pins go into place for Pit River Bridge

One of the 22-in. diameter, 8-ft. long pins required for construction of the Pit River bridge is shown going into place in the left photo. The pin, made of forged steel, is to fasten a big girder of the cantilever span to the shoe-plates atop Pier No. 3. It is designed to withstand a stress of 60,000 tons in double sheer. The workmen are about 400 ft. above the level of the Pit River, which in a few years will be backed up almost that deep at this point by Shasta Dam located 8 mi. downstream on the Sacramento River.

The right-hand view illustrates progress on steel erection for the double-deck crossing, which will carry railroad traffic on the lower deck and highway traffic on the upper roadway. The concrete pier in the immediate foreground is 360 ft. tall; a pier almost as high is required on the opposite side of the main channel. It is on top of these tall piers that the large pins are being used.

Henry G. Shirley dies; Virginia highway head

Henry G. Shirley, 65, chairman of the Virginia State Highway Commission since 1922, and first president of the American Association of State Highway Officials, died in Richmond, Va., July 16. In early manhood Mr. Shirley was connected with the Baltimore & Ohio and other railroads as an engineer. Following service with the U. S. forces during the Spanish-American War, he worked as engineer with the Hudson River R.R., the New York Central, the West Virginia Central, and the Baltimore & Ohio.



Henry G. Shirley

In 1904 Mr. Shirley became highway engineer for Baltimore County, Md., a position held until 1912 when he was made chief engineer of the Maryland State Roads Commission. In 1914, while head of Maryland's road commission, he was elected president of the American Association of State Highway Officials.

In 1918 Mr. Shirley became executive secretary of the Federal Highway Council, and in 1920 he returned to his old position as highway engineer for Baltimore County, Md. He became chairman of Virginia state highway commission on July 1, 1922.

• • •

Montana state highway department reorganized

With Howard W. Holmes as chief state highway engineer, the Montana State Highway Department July 1 was completely reorganized. A public relations manager was appointed and job reclassifications were placed in effect with minimum and maximum salaries established.

P. G. Poore, formerly pre-construction engineer, has been named road engineer; he will be assisted by Ray Percy, formerly division engineer at Lewistown. Horace B. Williams is road plans engineer, and S. A. Ramey continues as chief location engineer.

The maintenance department will be continued under the direction of Scott Hart, assisted by R. J. Hale, while the bridge department will be under the direct charge of Chief Engineer Holmes, with B. J. Ornburn as bridge design engineer, and R. A. Stephenson, bridge construction engineer. E. B. Donohue, former state and water board engineer, will replace Guy Johnson as materials engineer, with C. A. Decker in charge of the testing laboratory. M. [illegible] Steere replaces O. J. Jawort as planning survey engineer.

The right-of-way department will be in charge of A. G. Swinney, assisted by T. O. Johnston and E. O. Parsons. W. [illegible] Kively, office engineer, and John M. [illegible] loney, chief accountant, will report directly to the chief engineer.

Edwin Grafton will head the new Department of public relations as manager and E. J. Nichols, of Deer Lodge, succeeds Louis Scofield as manager of labor relations.

Division engineers appointments are as follows: R. L. Ewing, Butte; Ray Kuhn, Great Falls; R. J. Eshland, Billings; Frank A. Small, Wolf Point; Harry C. Tilzey, Missoula; Myron C. Locke, Kalispell; A. G. Middleton, Havre; S. E. Sanders, Miles City; R. H. Willcomb, Lewistown; Fred M. Brown, Bozeman.

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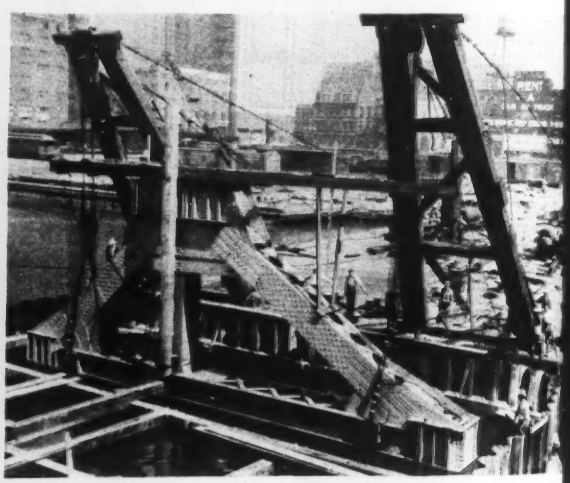
Lake Washington Pontoon Bridge traffic heavy

FIGURES of the Washington State Highway Department released early in July reveal that the Lake Washington pontoon bridge at Seattle during its first year of operation brought in tolls totaling $465,160. The income is far in excess of expectations, and a total of 1,439,179 vehicles carrying 3,278,408 passengers—almost double the state of Washington's population—used the floating crossing.



Chicago's State St. Bridge gets a pair of legs

One major item in the construction of the foundations for the new State St. Bridge over the Chicago River at Chicago has been completed with the setting of two big trusses that will carry the trunnions over the subway tubes already in place. The trusses rest on caissons sunk alongside the tubes, and will support the main piers immediately above.

The left view shows an 83-ton truss section for the north pier hanging from the A-frames of a couple of derrick barges. The queer shape of the truss, which is ready for swinging into place, comes from the fact that the subway tubes at this point are not on the centerline of the bridge. A lighter or 72-[illegible] truss for the south pier is being lowered [illegible] place in the right view.

Fitzsimmons & Connell Dredge & Dock Co., Chicago, is contractor for the bridge foundations. Additional details of the work are given in ENR May 15, 1941, p. 781.

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Rains relieve power shortage in Southeast

The Federal Power Commission July 17 reported that recent rains have effected a temporary improvement in stream flow conditions in the Southeast and have eased, to some extent, the critical power shortage prevailing two weeks ago. The rains made possible the raising of total reservoir storage in the region, measured in power, from 877,000,000 kw.-hours on July 2 to 1,241,000 kw.-hours in July 14, but this is far below normal July water reserves, which should total over 2,000,000,000 kw.-hours. In addition, the rains made possible a breathing spell during which overworked steam plants and boilers can be checked and made ready for continuing full operation during the critical periods ahead.

If continued rainfall assures sufficient stream flows to make possible the necessary operation of hydro plants without withdrawing water from reservoirs, it may be possible to permit full use of energy by residential and other small consumers, FPC reports. It is emphasized, however, that full energy use by these customers is entirely dependent upon future rainfall and resultant stream flow. It must also be emphasized that such additional energy supply is not sufficient to eliminate necessity for some curtailment by large commercial customers and non-defense industries in the area.

Rainfall alone is not expected to solve the problems ahead, due to the tremendous increase in energy requirements in the area. For example, in May 1941 the requirements of the Tennessee Valley Authority had increased 30 percent over May 1940; those of the Commonwealth and Southern system 25 percent; systems in North and South Carolina 36 percent; and systems in Virginia experienced 25 percent. It was increases, in the face of diminishing water reserves, that prompted the commission to declare a power emergency in the area.

FPC estimates of power requirements in the Southeast for August 1 total 350,000,000 kw.-hours.

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Arizona establishes engineering experiment station

The board of regents of the University of Arizona at a June 28 meeting decided to establish an engineering experiment station in connection with the university. The board appointed members of the faculties of the colleges of engineering and of mines to staff positions as follows: G. M. Butler, director; E. S. Borgquist, sanitary engineer; T. G. Chapman, process metallurgist; J. C. Clark, electrical engineer; E. H. Crabtree, associate mineral dressing engineer; J. B. Cunningham, pyro-metallurgist; W. C. Currie, assistant mechanical engineer; H. M. Fitch, assistant civil engineer; H. A. Jimerson, assistant mechanical engineer; F. C. Kelton, civil engineer; N. L. Martinson, assistant civil engineer; E. J. Nyhend, associate mining engineer; J. C. Park, highway engineer; O. H. Polk, associate electrical engineer; A. J. Thompson, assistant physical metallurgist and N. L. Thornburg, mechanical engineer.

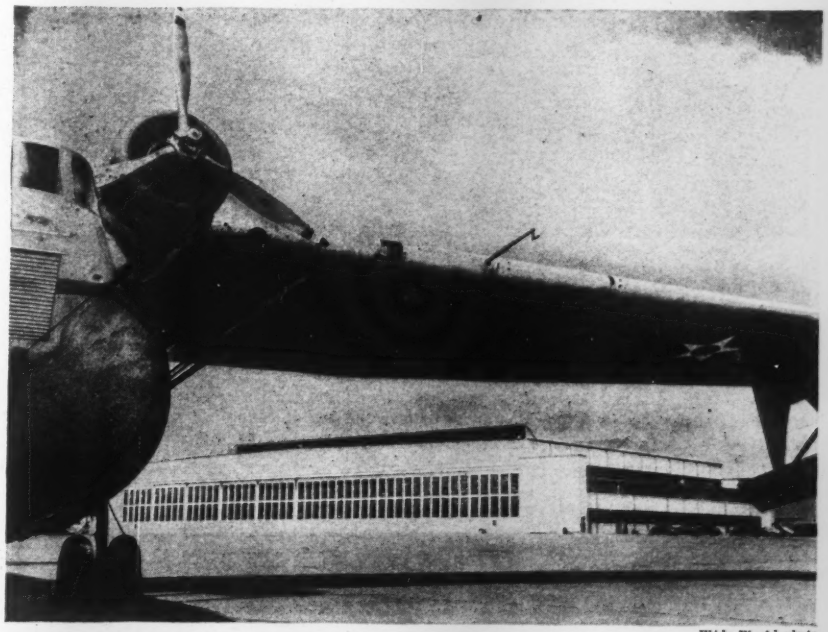
F. E. WEYMOUTH DIES

Frank E. Weymouth, general manager and chief engineer of the Metropolitan Water District of Southern California, died in Los Angeles, July 22, at the age of 67, according to reports received as this issue went to press. A full account of his professional career will appear next week.

Work started on big Tampa water supply job

The city of Tampa, Fla., has completed arrangements for a $2,000,000 extension of the city's water supply system. The work is to assure greater pressures and adequate fire protection for outlying areas. Under a joint contract of $1,458,810 the Boyce Co., Cone Bros. Construction Co., and C. T. Dawkins, are laying 150 miles of cast-iron mains. Another contract has been awarded to Burford, Hall & Smith, Atlanta, Ga., for $42,466 of work at the pumping plant.

With the work being carried out by the first three firms, the city is purchasing all materials and the contractors guarantee the work will not cost more than their contract, which was low bid at an April 16 opening. If the cost is less than the contract price, the city gets two-thirds of the saving. J. S. Long heads the Tampa water department.

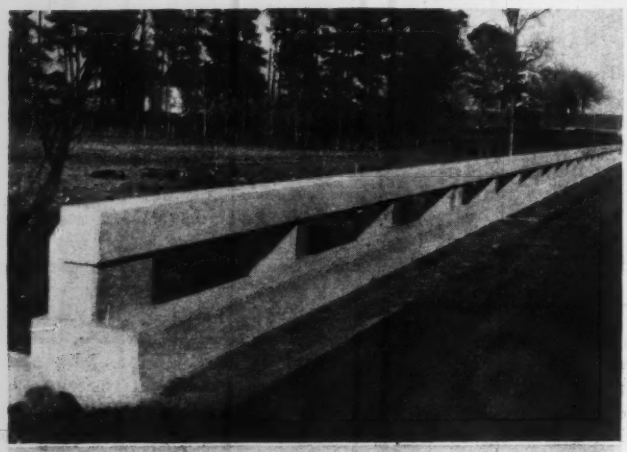


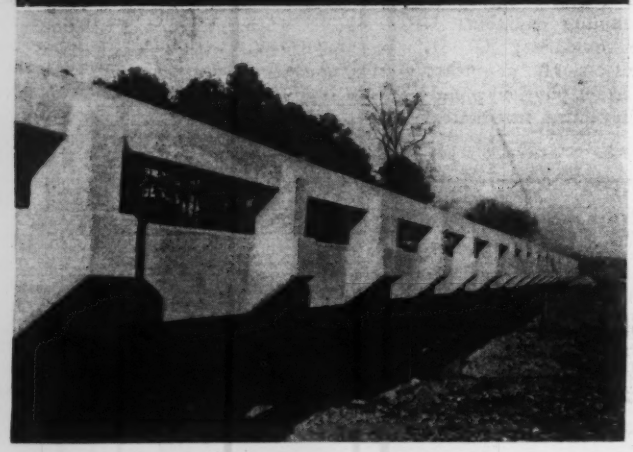
Wide World photo

Quonset naval air station put into active service

Just a few days short of one year after the start of work, the $30,000,000 Naval Air Station at Quonset Point, R. I., was turned over to the operating force July 12 with a commissioning ceremony. Work on the station started on July 16, 1940. Since then much of the great field for the land planes has been built of fill dredged out of Narragansett Bay, runways on the field have been paved and hangars built. Also built were seaplane ramps and hangars, great repair and assembly shops, piers to serve airplane carriers, barracks for enlisted men and quarters for officers, store-houses, rail and highway connections and the numerous services required for such a great base. When the base was turned over to the operating staff on July 12 most of this work had been completed. Details of the project are given in ENR June 5, 1941, p. 880.

Construction of the base was under the direction of the Bureau of Yards and Docks, U. S. Navy, of which Rear Admiral Ben Moreell is chief, with Comdr. R. V. Miller (CEC) as officer in charge of construction. The principal contract was held by the George A. Fuller Co. and the Merritt-Chapman & Scott Corp.. Admiral Moreell was one of the principal speakers at the commissioning ceremony.



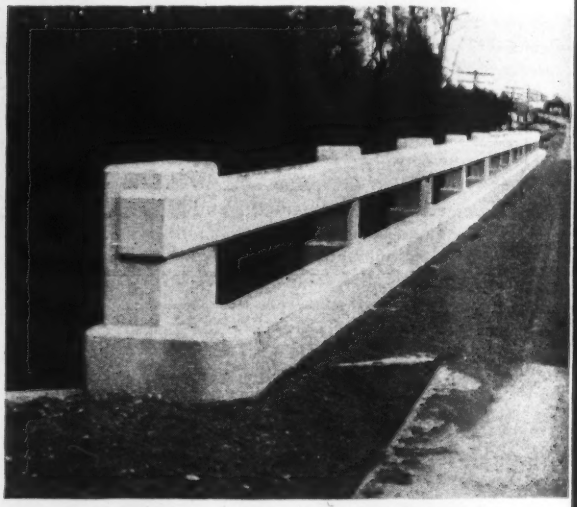


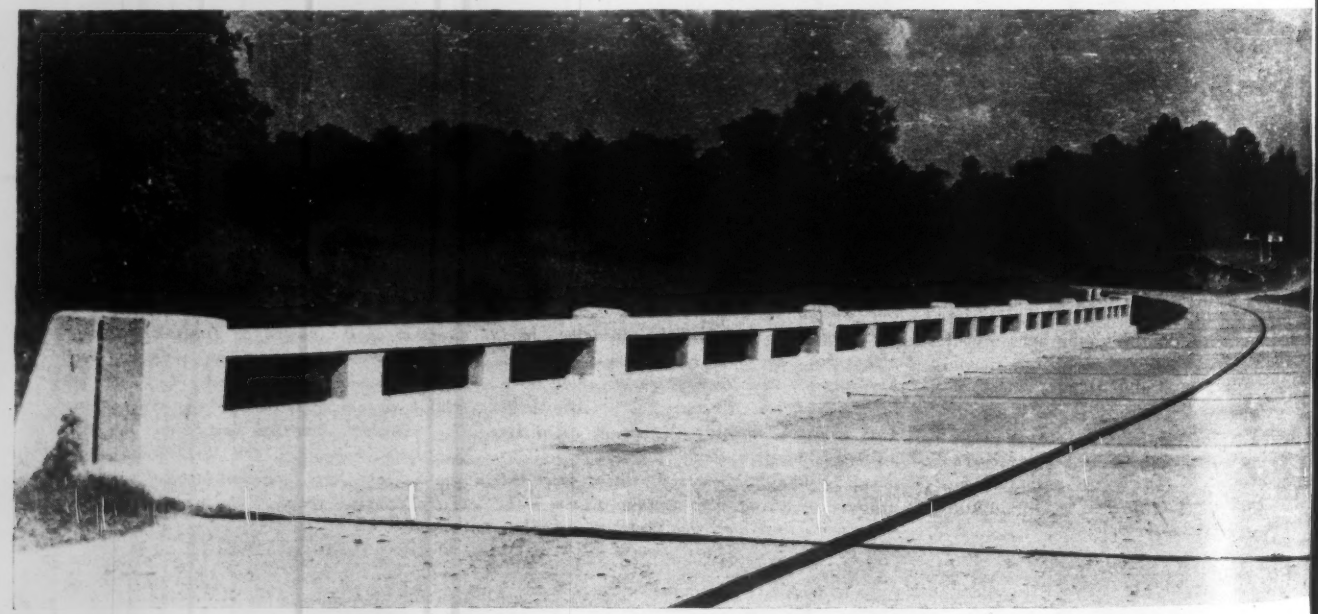
Front and rear views of handrail now built by South Carolina highway department. Sturdy posts are set behind and below top rail for protection from overhanging loads or to present two unobstructed surfaces to traffic

Mississippi's latest handrail, shown below, is both simple and good looking with intermediate posts below and behind top rail, only those at slab end projecting above.

Streamlined handrail on Natches Trace in Mississippi, built for heavy duty, is a far cry from ugly "through girders" popular 25 years ago.

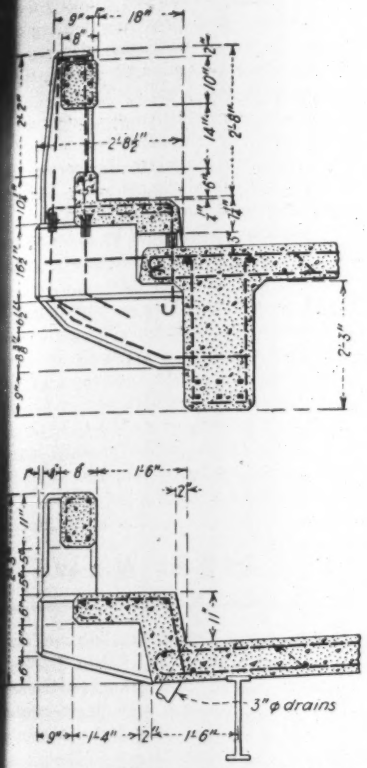
Strength, simplicity and beauty are exemplified by North Carolina's newest handrail, which is illustrated below.





Bridge handrail practice in the South

Wm. E. Barker
Regional Highway Engineer,
Portland Cement Association



At top is shown Virginia design with face of handrail one inch in front of posts on road side and curb or hub-rail sufficiently wide for a pedestrian refuge. Alabama design at bottom provides protection to both handrail and vehicles.

WHENEVER highway bridge engineers get together, the discussion is likely to turn to handrails. No other feature of small bridge design has changed as much in recent years; and no other bridge detail affords so much opportunity for the expression of individual ideas. Present practice in some of the southeastern states and Texas is shown by the accompanying table, photographs, and extracts from detailed plans.

Trend in the South is toward lower handrails, as streams are usually the most interesting spots along our roads, and motorists like to get a glimpse of the waterways in driving past. An exasperating experience is attempting to see a stream and find a rail at the exact eye-level or to get but tantalizing glimpses through a dizzying flicker of posts. Animal traffic is no longer sufficiently important to justify a fence-high handrail and height is no advantage in restraining motor vehicles. So handrail heights have been reduced considerably in the last five years.

This is not quite so true in Texas where some herds of cattle and sheep are still driven along the public highways. When these animals get to crowding on a bridge, a fairly high handrail is needed to keep them from jumping or being pushed over.

Today's handrail is simpler and less expensive than those of a few years ago. Formwork for its construction is more easily and quickly assembled and concrete of ordinary consistency can be used because of the simple lines eliminating costly filigree type of design. Now, instead of intricate paneling, the common style of handrail in southern states is a curb or hubrail and a single upper rail supported by square posts. This style is particularly desirable where the bridge has no sidewalk. Where sidewalks are included in the bridge design, higher and tighter rails are frequently used to keep adults from toppling over and children from falling through the railing.

The hubrail is being built wider, to keep overhanging truck bodies or wide loads from striking the handrail and to afford an emergency refuge for pedestrians. A hubrail 15 to 20 in. wide, and 10 to 12 in. high seems to be about what southern bridge designers prefer. The hubrail is what really confines vehicles to the bridge, for if a vehicle has sufficient velocity to mount the hubrail, chances are that the handrail would not stop it.

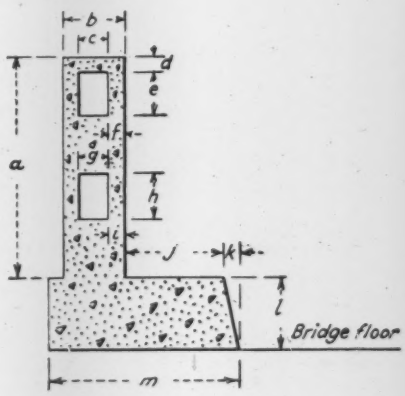
Posts supporting the handrail are generally smaller and plainer than formerly, and they are set behind the rail for protection to both bridge and traffic. Some states also put the top of the posts below the top of the handrail, for further protection from overhanging loads.

These changes make our highways safer and more attractive, and save money as well. Thus they are receiving wide approval.

HANDRAIL DIMENSIONS IN INCHES ON BRIDGES WITHOUT SIDEWALKS

(See sketch for limits of measurements)

State	(a) Post Height: End Post	(a) Post Height: Intermediate Posts	(b) Post Width: End Post	(b) Post Width: Intermediate Posts	(c) Rail Width	(d) Post Above Rail: End Post	(d) Post Above Rail: Intermediate Posts	(e) Rail Depth	(f) Road Side Rail Cover: End Post	(f) Road Side Rail Cover: Intermediate Posts	(g)	(h)	(i)	(j) Curb Width	(k) Curb Batter	(l) Curb Height	(m)
a.	21	21	12	12	8	0	0	11	0	0	(2)	(2)	(2)	18	2	11	33
b.	35	35	18	10	5½	3	3	9	..	2½	5½	8	3	18	..	9	29
c.(4)	21	21	12	11	6	3	3	8	3	2½	(2)	(2)	(2)	10	1½	14	24
d. (6)	38	38	15	15	8	..	..	..	..	..	..	..	..	15½	1½	10	33½
e.	22½	22	12	10	8	3½	3	7	2	1	(2)	(2)	(2)	..	..	..	..
f. C.	24	24	10	10	8	3½	3½	10	−1(1)	−1(1)	(2)	(2)	(2)	12	1½	10	25½
g. C.	18	18	10	10	8	−2½(3)	−2½	10	−1½(1)	−1½	(2)	(2)	(2)	9½	1½	12	23
Tenn.(5)	34½	34½	12	12	10	..	..	..	..	..	..	..	..	22	..	..	..
Texas	30	30	12	12	5	5	5	12	3½	3½	2	(2)	(2)	18	2	12	21½
i.	32	32	9	9	8	2	2	10	−1(1)	−1	5	6	−1(1)	16½	2½	10	32½



(1) Rail face projects beyond post by amount shown as minus dimension.
(2) No bottom rail used.
(3) Rail projects above post by amount shown as minus dimension.
(4) Precast rail.
(5) Spindle type handrail; dimensions not readily tabulated in above table. Spindles precast.
(6) Panel type handrail, with openings.

Bill supplies funds for Philadelphia road work

The State of Pennsylvania's legislative bodies during their recent session passed a bill authorizing a five-year $50,000,000 highway construction program for the City of Philadelphia. The act permits the city and state to enter into agreements whereby the state can rebuild certain Philadelphia streets without benefit of separate legislation. The law cuts out a great deal of red tape which might have delayed the plan indefinitely.

Governor James has specifically asked that the approaches to the Delaware River Bridge be made the initial stage of the program, which is scheduled to start within a few weeks.

A restriction on the work provides that expenditures for any one year may not exceed $12,000,000.

• • •

Labor unions settle old-time St. Louis dispute

Settlement in the St. Louis area of a 25-year-old jurisdictional dispute between the carpenters' and machinists' unions over machinery installations on construction projects has been settled, according to A. Earl Wyatt, district representative of the Training Within Industry Division of the Office of the Production Management. Under the new pact an equal number of millwrights and machinists will be employed in the installation of all machinery. If one union is unable to furnish its share of the needed workers, the other will provide the balance.

Strikes and work stoppages are prohibited as long as both parties adhere to the agreement. There is a provision in the new agreement that it shall give way to another settlement if one is arrived at by the American Federation of Labor, to which both unions belong.

• • •

Westinghouse starts big steam turbine plant

A $22,000,000 plant to manufacture steam turbines and gears for merchant ships for the U. S. Maritime Commission is to be built by Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., under a lease agreement with the Defense Plant Corp., according to R. A. McCarty, Westinghouse vice-president. The plant, to adjoin the South Philadelphia steam works, will manufacture annually sufficient steam turbines to provide a total capacity of 630,000 hp.

Illinois passes bill for slum clearance housing

When Gov. Dwight H. Green of Illinois July 9 signed "the neighborhood redevelopment" bill, the way was made clear to eradicate urban slum and blighted areas by organization of neighborhood redevelopment corporations. The new act grants the corporations the right of eminent domain to condemn property within an area set aside for new housing construction when the corporation acquires by purchase or option 60 percent of the property in the area.

Illinois communities are authorized to establish redevelopment commissions to supervise and regulate the corporations and to allot development areas. The commissions will consist of from three to five members appointed by a city's mayor for two year terms. Salaries will be fixed by the city.

Already the Chicago city council is preparing an ordinance for the creation of a commission to supervise those corporations that might operate in that city. The present blighted areas in Chicago, as shown by survey made by the Chicago Planning Commission, mainly form a border line surrounding the city's central business section.

To make Friant storage available for irrigation

To deliver water stored behind Friant Dam for irrigation of lands in the upper San Joaquin River Valley, this siphon will provide a canyon crossing on the Madera Canal being built by the Bureau of Reclamation as part of the Central Valley project. The barrel of the siphon is 12 ft. in diameter, and the initial capacity of the canal is 1,000 cfs. A second canal will also begin at Friant Dam and deliver water to an area near Bakersfield, Calif.

BRIEF NEWS

PRESIDENT ROOSEVELT last week signed a bill extending until July 14, 1942 the time in which the Arkansas-Mississippi Bridge Commission may begin construction of a bridge across the Mississippi near Friar Point, Miss.

SALARY INCREASES have just been approved for filter plant operators and water department maintenance workers at Roxboro, N. C.

SOME 150 municipal employees of the city of Racine, Wis., went on strike recently or remained away from work for half a day. They sought an increase of five cents an hour for all hourly paid employees; an increase of $9.53 a month for all salaried workers; no deduction for loss in time incurred by the strike; installation of a pension system to begin Jan. 1, 1942; retirement at the age of 70; and all wage increases to be retroactive to July 1, 1941.

RECENT RAINS in the state of North Carolina have damaged the state highway system to the extent of $200,000 to $300,000, according to a statement July 15 by W. Vance Baise, chief engineer of the state highway and public works commission. Mr. Baise reports that principal damage was in the western part of the state.

WASHINGTON HIGHLIGHTS

ABOUT A BILLION and a half will have to be spent by 1946 to provide shore bases for the two-ocean navy now under construction, Admiral Ben Moreell, chief of the Bureau of Yards and Docks, told Congress last week. Now before Congress is a bill authorizing expenditure of $300,000,000 to bring the shore bases to the level which will be required by the size of the Navy a year from now.

A NEW CONSTRUCTION SECTION designed to keep the Commerce Department in touch with conditions in the construction industry and ultimately to serve as a liaison agency between the industry and government has been set up in the Bureau of Foreign and Domestic Commerce. The section is headed by S. Morris Livingston, who has been economist for the investment counsel firm of Scudder, Stevens and Clark. Joseph H. Ehlers, associated with Modjeski & Masters and earliest liaison officer for PWA, has been retained as technical specialist under Mr. Livingston. Although the new agency is not primarily a statistical organization, its first job will be to assemble all the available public and private statistical information on the industry as a basis for monthly reports on the status of the business. Initially these will be for internal circulation but later perhaps made public. As the section becomes better established, Mr. Livingston hopes to take a hand in the major problems of government-industry relations.

FUNDS AVAILABLE for armament expenditure in this country—appropriations, authorizations, RFC money, and British contracts—totalled just under $50,000,000,000 as of the first of this month, OPM estimates. Well over four billions of this is for construction, including $3,652,000,000 for posts, depots and fortifications, $495,000,000 for housing, and something less than half of $5,530,000,000 for industrial facilities. Contracts actually awarded in these categories total $2,212,000,000 for posts, etc., $283,000,000 for housing, and $2,767,000,000 for industrial facilities.

THE HOUSE this week passed the $262,000,000 defense road bill, which now goes to conference for reconciliation with the slightly different version which has already passed the Senate. Chief difference is that the Senate bill sets a limit of $250,000,000 on the amounts which may be appropriated for the various classes of defense road work, while the House authorized a somewhat higher amount and broke it down; for paying three-fourths of the cost of improvements to the strategic network, $100,000,000; for paying all the cost of access roads, $150,000,000; for the full cost of flight strips, $2,000,000; and $10,000,000 for half the cost of advance planning.

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Contractors must waive claims for more army jobs

Contractors holding fee contracts from the War Department are being required, whenever they receive a second contract, to waive all claims against the government arising from the first contract. Presumption is that before the waiver is asked an equitable settlement of claims is informally worked out, but it appears in the main to be pretty much on a take it or leave it basis.

The new policy was instituted last month by the Assistant Secretary of War, mostly from the fear of a flood of lawsuits arising out of the first cantonment program. Theory of the fixed fee contract is that the fee is set as a percentage of the *estimated* rather than the actual cost. It is now admitted that the estimates on the cantonment program were ridiculously low—in some cases as much as 100 percent off. Many contractors have felt that they are entitled to some adjustment of their fee; the present move is to head off such claims.

Although most contractors who have been required to sign waivers have filed formal protests with the War Department, no concerted campaign against the new rule is underway. Most firms would rather get another job than litigate over the old one.

Stilling basin completed for Denison Dam project

Construction of the outlet works for the $54,000,000 Denison Dam flood control and power project on the Red River five miles northwest of Denison, Tex., is now about 90 percent complete. Already finished is the stilling basin, as shown by the photograph. Construction of the outlet works, which is being done by the C. F. Lytle Co., Sioux City, Iowa, was begun in February 1940. Of a total of about 243,000 cu.yd. of concrete required, only 10,000 cu.yd. remain to be placed. Installation of the gate hoist will be started during the next month.

The contract for the excavation of the outlet works structures was awarded to the George W. Condon Co. and John Kerns Construction Co., Inc. Operations on this contract were started September 1939 and completed May 1940. The material excavated for this work was 3,100,000 cu.yd.

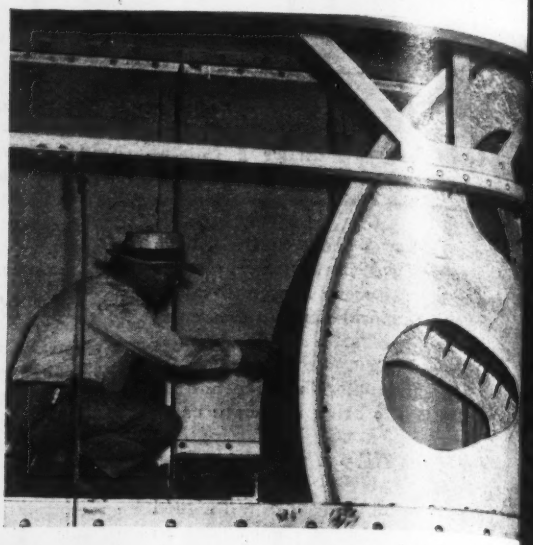
The contract for the construction of the main dam embankment and spillway excavation was awarded to the Guy F. Atkinson Co., San Francisco. This work, started in May, 1940, is scheduled for completion by March, 1944. Placing of rolled fill now totals about 4,600,000 cu.yd. of an estimated total of 17,600,000 cu.yd. required for completion of the main dam embankment. The excavation of the spillway area, a part of the work performed by the Atkinson firm, now totals approximately 3,250,000 cu.yd. and the total excavation in the area will be about 10,900,000 cu.yd. The main embankment, 15,200 ft. in length and having a maximum height of 165 ft. above river bed, is about 27 percent complete. The largest quantity of earth excavated in a single 24-hr. period has been 50,167 cu.yd.

Specifications for the generators and turbines, which will be installed in the power house, and for the spillway structure are now in the process of preparation. It is expected that bids for the generators and turbines will be requested during the latter part of September and spillway construction bids during the late fall of 1941.

For additional details of the Denison Dam work, see ENR, Sept. 19, 1940, and Feb. 27, 1941, p. 327.

MEN at WORK

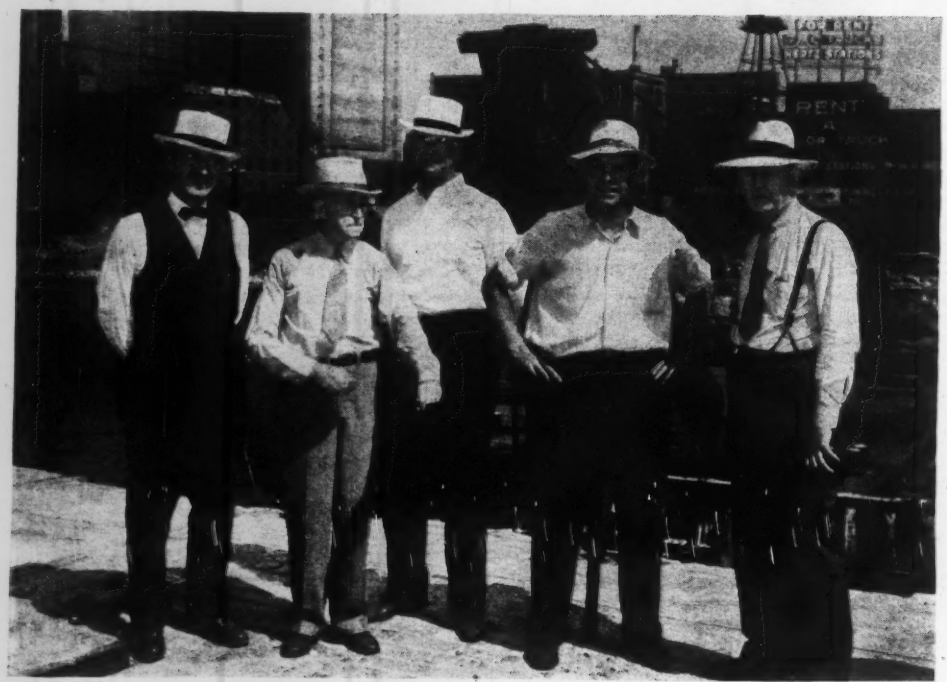
Bridge constructors in South Carolina include the three above. Left to right they are: LUTHER SHOEMAKER, superintendent for Vincennes Steel Corp.; and A. T. CLARKSON, resident engineer, and W. J. GOODING, JR., bridge engineer, both with the South Carolina road department.



Lift-span mechanism of the new Jacksonville, Fla. St. Johns River bridge gets the attention of M. V. MOORE (above), state project engineer for the Florida state highway department.

New England sanitary engineers (right) on an inspection at Fort Devens, Mass. F. H. KINGSBURY, soon to be new president of New England Water Works Association; EDWARD WRIGHT, Massachusetts department of health; and WARREN J. SCOTT, director, sanitary bureau, Connecticut department of health.

***JOHN E. FURLONG** (above), manager of the highway planning survey, Colorado Department of Highways and new secretary-treasurer of the Western Association of State Highway Officials, snapped at the association's recent meeting.*



Enough talent at left to build all the bridges in Chicago. Lined up in front of the foundations of the new State St. Bridge over the Chicago River are (left to right): CARL JOHNSON, city's resident engineer on the job; C. S. ROWE, construction engineer for city's bureau of bridges; JOHN ROACHE, general superintendent for FitzSimons & Connell Dredge & Dock Co., substructure contractors; R. E. FOX, contractor's superintendent in charge; and City Engineer W. W. DeBERARD.

S. S. GORMAN (above), one of a rapidly increasing number of engineers now in shipbuilding, recently became chief assistant to the district engineer, shipbuilding division, Bethlehem Steel Co. at San Francisco. To this job he brings the background of assistant chief engineer, Signal Oil Co., and construction experience on the San Francisco-Oakland Bay Bridge and the Golden Gate International Exposition. His shipyard work has to do with reconstructing plants of the old Risdon and Union Iron Works where five new slips for launching ways are being built for destroyers and cruisers. Other slips are being reconditioned to bring to a total of eight the shipways to be used in contracts totaling more than $12,000,000 recently allocated to these plants.

The versatility of the genus engineer is simply amazing. Take ROY PHILLIPS (above), for example; professionally, he is well-known as city engineer of Meadville, Pa. and president of the American Public Works Association. But outside the profession—and here we spill the beans—he is recognized as an accomplished flautist of symphonic orchestra caliber!

Despite the fact that bad foundations had unexpectedly required the driving of 364 wood foundation piles averaging 26 ft. in length, those responsible for the $500,000 central heating plant project at the Jeffersonville, Ind., Quartermaster Depot have no grudge against the world, as shown by the view above. They are (left to right above): FRANK SKIBBIE, general superintendent for the C. A. Hooper Co., Madison, Wis., general contractors for the work; A. L. HARTMAN, the Constructing Quartermaster's assistant engineer; and CHARLES E. ARNOLD, the firm's office engineer.

On every big construction job there is a wheelhorse or two that keeps the job moving. Above are the two wheelhorses who brought Camp Wolters at Mineral Wells, Tex., to completion on the evening of March 14, ready for the scheduled troop invasion of March 15. They are CHARLES E. HENNING (left), assistant project engineer for Rollins & Forrest, engineers on the camp, and SAM OWENS, assistant general superintendent for Cage Bros. and Reeves, Inc., contractors.

I. H. TEILMAN (right), chief engineer of the Consolidated Irrigation District, Selma, Calif., stands beside the gate control he devised to regulate the rate of flow level in the district's head canal taking water directly from Kings River. First installed in 1923 the float-actuated, electric-automatic power mechanism has since been in operation 24 hr. a day during the irrigation season.

MEN AND JOBS

J. C. Bisset, formerly city engineer of Corpus Christi, Tex., was appointed assistant director of public works, Dallas Tex., as of July 1. A graduate of Kansas University, Mr. Bisset has had a broad engineering background, including work on subdivision of city additions, design and construction of sewage disposal plants, sewers and paving, and reclamation. He succeeds Homer A. Hunter, who is now superintendent of the Dallas waterworks, replacing John B. Winder, now chief waterworks engineer. Glenn R. Blackburn will take Mr. Bisset's place at Corpus Christi. Mr. Blackburn, city engineer there from 1929 to 1933, was recently employed by the zone construction quartermaster at Fort Sam Houston, being on leave of absence from the position of highway engineer for the Houston Chamber of Commerce.

J. C. BISSET

Brig. Gen. Francis B. Wilby, chief of staff of the First Army and formerly division engineer for the North Atlantic Division, has been assigned to command the First Corps Area of the United States Army with headquarters at Boston, succeeding **Major Gen. James A. Woodruff,** who retired on June 30. A native of Detroit, Gen. Wilby saw considerable service overseas in the World War.

Ezra C. Knowlton, chief engineer of the state roads commission, Salt Lake City, Utah, left in June to take a position as civilian engineer under **Lt. Col. Elmer G. Thomas,** army construction quartermaster for Ogden and vicinity.

Donald A. Bell, of the department of public works at Portland, Ore., was elected city engineer of Marshfield, Ore., to replace **E. K. Burton** as of July 1. Mr. Burton has left to become city manager at Silverton.

W. O. Spence, superintendent of water plant at Sanford, N. C., for the past eight years, has resigned and will be replaced by **E. P. Wicker,** a former superintendent.

John N. Higgins, formerly engineer for contractors on the Naval Air Station at Jacksonville, Fla., has recently been appointed contracting engineer on construction of the Marine Barracks at New River, N. C.

H. H. Garrigues, former chief engineer of maintenance of way, eastern region of the Pennsylvania Railroad, has been promoted to assistant to general manager of the eastern region with headquarters at Philadelphia. He is succeeded by **S. R. Hursh,** who has been acting chief engineer of maintenance of way of the region.

W. F. Cox, Jr., who has been stationed at Camp Davis, N. C., as engineering superintendent of construction, has returned to Camp Blanding, Fla., in the capacity of civil engineer with the constructing quartermaster in the roads and drainage division.

Clarence R. Young, professor and head of the civil engineering department at the University of Toronto, was appointed dean of the Toronto faculty of applied science and engineering, effective July 1, succeeding Brig. Gen. C. H. Mitchell, who has retired. Dean Young was educated at the University of Toronto. Following graduation he engaged in a variety of engineering work, principally structural in Lachine and Toronto. He joined the staff of the university as lecturer in structural engineering in 1907 and has been with the university ever since, being appointed professor of civil engineering in 1929. Concurrently with his university work, Dean Young has been engaged in private practice as consultant on many structural, economic and legal problems, including Ontario government buildings, the Cockshutt Bridge at Brantford, the original plans for the combined railway and highway bridge at Detroit, proposed St. Lawrence Bridge at Brockville, and investigations on the Victoria Bridge of the Canadian National R.R. at Montreal.

C. R. YOUNG

Harold Strombom has been appointed county surveyor of Nuckolls County, Neb., with headquarters at Nelson. He succeeds **E. C. Dewey,** who has resigned.

A. C. Kennedy, highway contractor of Malvern, Ark., has been named as a member of the Arkansas State Licensing Board for General Contractors by Governor Homer M. Adkins. Mr. Kennedy succeeds **S. M. Dixon,** of Warren, whose term had expired. Mr. Kennedy operates under the name of the Pioneer Construction Co.

Blake R. Van Leer, dean of the school of engineering at North Carolina State College, Raleigh, N. C., has just been appointed regional advisor in the Carolinas and Virginia for the U. S. Department of Labor's committee on safety engineering defense training.

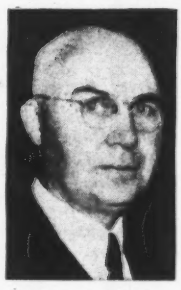
Capt. Oliver B. Brown has gone to Des Moines to be constructing quartermaster for a new 30-million-dollar small arms munitions plant to be constructed north of the city. Capt. Brown was chief engineer and superintendent of construction at the Massachusetts Military reservation from 1936 until his induction into federal service last year. He has been assistant constructing quartermaster at Camp Edwards, Mass. He is a graduate of the Lowell Institute, Cambridge, Mass., the Massachusetts Military Academy, and the Army Engineer school.

L. D. Howard, safety engineer with the South Dakota state highway commission, has been assigned as manager of the statewide highway planning survey. He replaces **B. J. Mitchell,** who has returned to the highway plans office as a road designer.

John T. Tucker has been named secretary and chief engineer of the North Dakota Water Conservation Commission. He replaces **H. F. McColly.**

George E. Atkinson, city engineer at Havre, Mont., has resigned to join the civil service at Washington, D. C.

John Lucian Savage, chief designing engineer of the Bureau of Reclamation, will leave in September for a temporary assignment as consultant on the Upper Yarra Dam to be built by the city of Melbourne, Australia. On July 15 President Roosevelt signed an amendment to an act which permits Mr. Savage to act as consultant to Australia and advise the government of Punjab, India, in addition to his regular reclamation work. (The Constitution provides that an officer or an employe of the government may not perform remunerative services for a foreign government without Congressional authority.) Mr. Savage has designed 55 major dams and it is estimated that he is the only engineer in the world to have supervised the design of structures having an aggregate valuation of over one billion dollars.



J. L. SAVAGE

PRIORITIES GUIDEPOST

Current notes on what, who and how

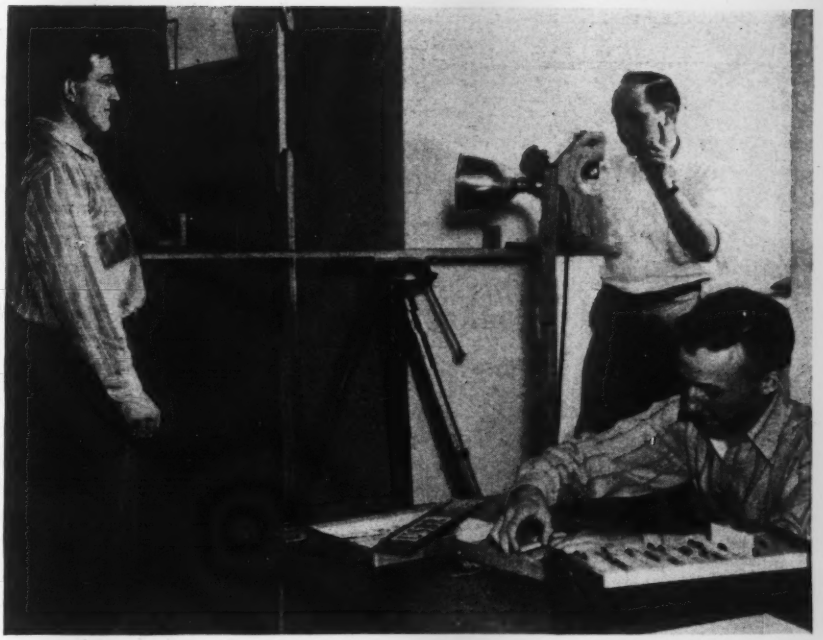
Most priority control of industry is from the top down; ratings are attached to finished projects and thence seep down into the basic industries. On a constantly increasing number of basic materials, however, the Priorities Division of the Office of Production Management is putting guns ahead of butter in another way, by directing the distribution of the raw materials. This "industry-wide control" may take many forms; the mildest is merely to direct producers to fill defense orders first and perhaps establish some guides as to how what's left over should be distributed. At the other extreme is full allocation, where OPM tells the producer, on a pound-for-pound basis, just who shall get material. In some cases these systems are combined by setting aside a percentage of the monthly output of the material in a pool to be allocated by OPM. Purpose of the pool is to make possible immediate delivery to meet unforseen or emergency needs—almost always of a defense nature. Applications for material from a pool are made on a form MM-1, which is obtainable, like all priority forms, from Federal Reserve banks.

Chief significance to the construction man, when a material he uses goes under industry-wide control, is that he should obtain any priority ratings to which he may be entitled. As previously pointed out, defense contractors do this by applying to the government contracting officer in charge of their job. Marginal or non-defense contractors can apply to Priorities Division at Washington for a rating, using a PD-1 form.

Details of the priority control differ with each material. Below is described the situation in those of the sixteen materials now subject to industry-wide control which are of special interest to construction:

MACHINE TOOLS: Tools, including presses and welders, but not including hand and bench type tools, are delivered only on orders having priority ratings. Tool makers are allowed arbitrarily to assign a rating of A-10 to unrated orders which they know to be for defense; however, the present demand for tools is so great that an A-10 rating is of little use.

STEEL: Producers of carbon and alloy steel products as well as of pig-iron, ferro-alloys, steel ingots and castings have been told to give preference to defense orders for steel, as evidence by priority ratings or otherwise. Steel users unable to place orders or obtain satisfactory delivery dates may submit to Priorities Division, OPM, Washington, Form PD-32, setting forth the situation. OPM will then order the steel supplier to explain why delivery was deferred or refused and may order the supplier to accept or expedite the order. Steel of all kinds available for non-defense purposes amounts to about nine-tenths of the civilian demand; supply of plates and shapes, however, is sufficient to fill only about two-thirds of the non-defense demand. Shortage is expected to become more acute during the remainder of this year and next.



Grand Coulee workers photographed

Two thousand Grande Coulee Dam workers, employed by the Bureau of Reclamation and the contractors, are being photographed, fingerprinted, and asked to fill out a five-page questionnaire under an official government ruling designed to protect the dam and power-house. Philip R. Nalder, head of the Bureau right-of-way department, is shown as the first man to be photographed. Frank B. Pomeroy, chief photographer at Grand Coulee for the Bureau of Reclamation, is the camera man.

NICKEL-STEEL: Quality of nickel-bearing stainless steel has been somewhat reduced by requiring that 60 percent of the nickel used for alloying be reclaimed from scrap. After filling defense orders, including those to which they assign an A-10 rating, producers are required to fill non-defense orders in accordance with a set of B ratings. Definitions of these ratings have been established by OPM, and the ratings are assigned to orders by the producers themselves except that a BB emergency rating is granted only by OPM. Monthly deliveries equal to the average for 1940 may be made to customers having a BB rating or a rating from B-1 to B-3. These cover orders for material needed for equipment entering indirectly into defense or needed "essential production and services." The B-4 rating, entitling the holder to 70 percent of 1940 deliveries, covers products for protection of public health and safety. B-5, getting 50 percent, is for users using less than a ton a month. B-6, 40 percent, is for customers using less than two pounds of nickel steel per $100 of product's sales value. B-7 and B-8 with 30 and 10 percent respectively, are for users for which there are not and are, respectively, satisfactory substitutes.

TOOL STEEL: No user of high-speed tool steel may fill more than half his requirements with tungsten-type steel; he must use molybdenum steel for the remainder. Thus, when anyone buys tungsten steel he must, within a three months period buy at least an equal amount of molybdenum steel.

COPPER: This metal is in a transition position. Enough is now available to meet about four tenths of civilian demand. But the military demand is steadily increasing, while the supply may be reduced by a shortage of shipping to move Chilean copper. Thus, the entire supply of the metal is likely soon to be subject to detailed monthly allocation by OPM. Meanwhile, the arrangement is as follows. Producers of copper in both fabricated and pre-fabricated form are required first to fill defense orders, assigning a rating of A-10 to those not having a higher rating. Copper refiners must then set aside a fifth of their April production in a pool to be allocated by OPM, which also allocates the Chilean copper imported by the RFC. From any remaining copper, civilian customers are supplied up to one carload lot, and the remainder is pro-rated among the larger orders.

ALUMINUM: This metal is now unavailable for construction uses. The full output is going into defense uses—mostly aircraft—and is allocated month by month by OPM.

ZINC: Producers of metallic zinc, zinc oxide, and zinc dust must first fill defense orders, including those to which he arbitrarily attaches a rating of A-10. Then he must set aside a percentage of his May output in a pool for direct allocation by the Priorities Division; currently this percentage is 22 percent for metallic zinc, 10 percent for zinc oxide, none for dust. Thereafter, the producer may fill small non-defense orders up to a carload a month of zinc or 2,000 lbs. of oxide or dust. Finally, remaining zinc will be pro-rated among larger orders. Enough zinc is at present available to meet about two-thirds of civilian demand.

RUBBER: There is no present shortage of rubber, but in order to permit accelerated accumulation of a government stockpile, rubber processers have been ordered gradually to reduce their output until by December only 80 percent as much fabricated rubber will be produced as during the twelve months ending March 31, 1941. In delivering fabricated rubber products, defense orders must be given preference.

NICKEL: No nickel may be delivered to non-defense customers except upon specific direction by OPM. Producers submit their order books monthly to OPM for such approval. Non-defense users must either induce their suppliers to put them on the order books for approval by OPM or, if this proves impossible, to write to the Priorities Division, setting forth the situation in detail. All users of nickel must file monthly—one copy to Priorities Division, one to their supplier—Form PD-27 which describes the proposed use of the metal, and estimates needs for the next three months.

CHROMIUM: Producers of chromium, pure or in combination and in non-manufactured or semi-manufactured form, are required first to fill all defense orders, assigning a rating of A-10 to defense orders without a rating. Producers of chromium-bearing refractories may make deliveries only to defense users, but other types of producers may make deliveries, from any available supplies, to non-defense customers.

British Combine photo

For fighting London fires

Extra water pipes to aid in fighting London fires resulting from bombings are often placed in the streets. This arrangement permits a number of extra hoses to be connected as shown.

Elephant Butte spillway overtopped for first time

Although built in 1916 as an early Bureau of Reclamation project, the Elephant Butte Dam reservoir, on the Rio Grand in New Mexico, early this month was brimful for the first time in its history. The reservoir now holds 1,914,000 acre-ft., and is lapping the control gates 2½ ft. above their sills. This is a record high stage. In 1920 the water impounded the dam within 2 ft. of reaching the spillway gate sill, while in 1924 it came within 2 in.

Storage in reservoir is equal to more than a two-year irrigation supply, for the 175,000 acres of the project.

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Baker public works coordinator for FWA

In these pages, June 26, 1941, p. 975, it was erroneously stated that Jacob Crane, planning consultant in the Federal Works Agency, had been named coordinator of FWA's newly created public works reserve organization. The new coordinator is Jacob Baker.

JOBS OF THE WEEK

SMALL ARMS PLANT, Des Moines, Ia.

Weitz Co., Des Moines; McLaughlin Bros., Des Moines; Central Engineering Co., Davenport, Iowa, and W. O. Priester Co., Davenport, have been awarded contract for constructing a plant for manufacture of small arms for the War Department, Washington, D. C. The work is estimated to cost $30,000,000.

DOCKS, Clarkson, Ont.

Russell Construction Co., Ltd., Toronto, Ont., has been awarded the contract for constructing the docks and water intake of a refinery project, which is estimated to cost $3,000,000. The work is being done by British American Oil Co., Ltd., Toronto.

BUILDINGS, Fort Knox, Ky.

Whittenberg Construction Co., Struck Construction Co., George M. Eady Co., and Highland Co., all of Louisville, Ky., have been awarded a joint contract for construction of barracks, mess halls, administration buildings, etc. The project, estimated at $5,940,000, is being done by the War Department, Washington, D. C.

ZINC REFINING PLANT, Corpus Christi, Tex.

James Stewart & Co., New York, N. Y., got the contract for constructing a $5,200,000 electrolytic zinc refining plant for the American Smelting & Refining Co., New York. Aylen Pierson, Perth Amboy, N. J., is architect for the project.

STEEL TOWERS, Oregon State

American Bridge Co., Pittsburgh, Pa., was low bidder for building the steel towers for transmission lines with a bid of $2,042,846. Bids were opened by the Bonneville Power Administration, Portland, Ore.

AIR DEPOT, Rome, N. Y.

Turner Construction Co., New York, N. Y., and Carleton Co., Inc., New York, N. Y., have received a joint contract for constructing a $15,000,000 air depot for the U. S. Engineers, Binghamton, N. Y.

PLANT, Erie, Pa.

United Engineers & Constructors, Inc., Philadelphia, Pa., was awarded the contract for constructing a plant for the manufacture of turbines. The project, located in Lawrence Park Twp., is estimated to cost $10,000,000, including equipment. General Electric Co., Schenectady, N. Y., is doing the work, which will be financed by Defense Plant Corp.

FACTORY, Pottstown, Pa.

Ford, Bacon & Davis, New York, got the contract for designing and constructing an engine factory estimated to cost $10,000,000, including equipment, for the Jacob Aircraft Engine Co., Pottstown. The Defense Plant Corp. will finance the work.

HOUSING, Clairton, Pa.

James McHugh & Sons, Inc., Chicago, Ill., was low bidder for constructing the Clairton defense housing project for 450 families. The work, estimated to cost $2,022,000, is being done by the Allegheny County Housing Authority, Pittsburgh. Schwab, Palmgreen & Hutchins, Pittsburgh, are architects for the project.

WAREHOUSES, Avon, Ky.

Fleisher Engineering & Construction Co., Buffalo, N. Y., was low bidder for the construction of the warehouses, administration building, service station, etc. with a bid of $4,300,000, when the construction quartermaster, Lexington, Ky., opened bids. Allied Engineers & Architects, Lexington, Ky., are architects for the work.

NAVAL EQUIPMENT PLANT, Lester, Pa.

United Engineers & Constructors, Inc., Philadelphia, Pa., has been awarded the contract for constructing a plant to manufacture naval equipment. The work is being done by the Westinghouse Electric & Mfg. Co., Pittsburgh, Pa., and is estimated to cost $5,830,000 for land and buildings, $16,170,000 for equipment, and in total $22,000,000. The Defense Plant Corp. is financing the project.

MUNITIONS PLANT, Salt Lake City, Utah

Broderick & Gordon, Colorado Springs, Colo., will construct a $30,000,000 munitions plant for the War Department, Washington, D. C.

TVA DAMS, North Carolina and Georgia

Tennessee Valley Authority, Knoxville, Tenn., will build with it own forces at an estimated cost of $20,000,000 Apalachia Dam on Hiwassee River; the $5,000,000 Chatuge Dam 4 mi. above Hayesville, N. C., at confluence Shooting Creek; Ocoee Dam Number 3 on Ocoee River, which is estimated to cost $6,600,000; and $5,000,000 Nottely Dam on Nottely River 12 mi. upstream from Ranger, N. C. The first two projects are in North Carolina and the latter two dams in Georgia.

NOTE—Additional bidding and contract news on over 800 projects large and small appear in the Construction News section beginning on page 17.

Big power development started in Quebec

Preliminary construction work on a one-million horsepower hydro project on the Saguenay River in Quebec has been started according to McNeely DuBose of the Aluminum Power Co., Montreal, a subsidiary of the Aluminum Company of Canada, which company now operates a 240,000 hp. plant at Chute-a-Caron on the Saguenay River to provide power for its aluminum plant at Arvida, Que.

Between Lake St. John and tidewater in the St. Lawrence River the Saguenay River has a drop of about 330 ft., all of which is concentrated in the first 32 miles. The river has a flow of from 28,000 to 200,000 cfs., and Lake St. John provides a large amount of regulation. A plant developing 170 ft. of head was built in 1924 at Isle Maligne, 7 miles below the outlet of the lake, and in 1927 work was begun on a two-stage development of the remaining 208 ft. of head. That plant, at Chute-a-Caron, develops 150 ft. and its dam will serve to divert the water of the Saguenay River over into the valley of the Shipshaw River, a tributary flowing into the deep tidal section of the Saguenay, where the 208 ft. head can be developed in a short distance. The valley through which this diversion for the second stage of the development is to be made was closed off by a temporary dam when the Chute-a-Caron project was built.

The work recently started was on this second stage. The artificial waterway along the north side of the river will be formed by four dams closing off side valleys. Tunnels from the lower end of this channel will carry the water down to a power station close to tidewater in the Shipshaw River valley. It is planned to complete the canal work and half of the new power station at this time.

Also under way at the present time is the installation of two of the 75,000-hp. units for the new station in a temporary extension of the Chute-a-Caron power station to provide an additional 100,000 hp. at that point at the earliest possible date to produce aluminum for war needs. Later these units will be moved to the new plant. They will take water from the forebay through new openings to be cut in the gravity-section wing wall of the main dam and will operate under a 150-ft. head, discharging into the present tailrace.

H. G. Acres & Co., Niagara Falls, Ont., are consulting engineers for both power projects.

The Aluminum Company of Canada has authorized the construction of 107 new dwellings and is considering building an additional 75 dwellings at Arvida to help accommodate new labor brought into the district by expansion of the aluminum plant. Cost will average about $4,000, with some 20 or 30 in the $6,000 to $8,000 range. All buildings in Arvida must conform to a definite architect's plan, Arvida being one of the pioneer experiments in industrial town planning.

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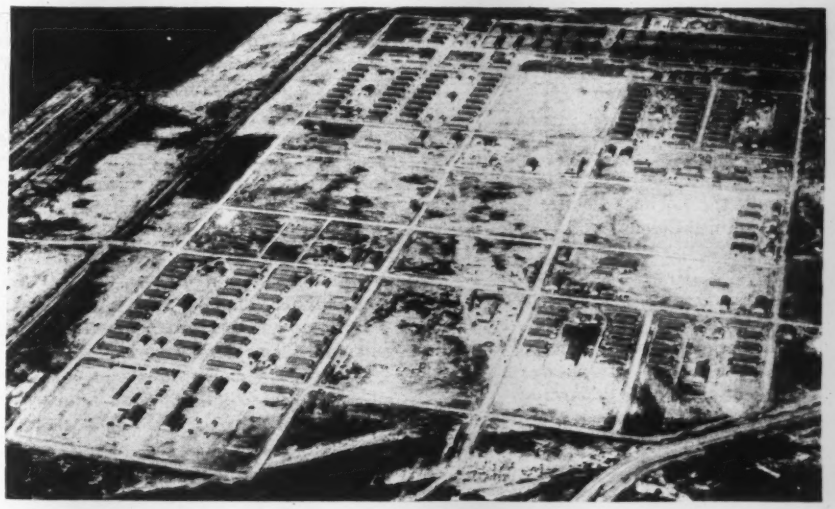
Long cantilever studied for Tacoma crossing

Among the many designs being studied by the Washington State Toll Bridge Authority for a bridge to replace the Tacoma Narrows suspension bridge, which collapsed Nov. 7, 1940, is the design for a cantilever crossing with a central span of 1,600 ft. The two main piers, which would need to be placed much nearer the center of the Narrows than those used with the 2,800-ft. central span of the suspension bridge that collapsed, would be built in water 180 ft. deep. The proposed structure would provide a 64 ft. roadway to provide a single railroad track and two lanes of highway traffic each way.

C. E. Andrew, engineer for the authority, reports that such a structure is estimated to cost $14,000,000 and could not be built unless the federal government was willing to help finance the undertaking. Since the bridge would serve the Puget Sound Navy Yard at Bremerton, Wash., the national defense angle might make federal help possible.

Dexter Smith, formerly with the Oregon State Highway Department, last week was appointed designing engineer for the new Tacoma Narrows Bridge.



Fort Riley workers provide a building every 38 Min.

Study of the progress records on the 890 buildings recently completed in the Fort Riley, Kan., expansion program shows that building authorizations averaged one every 34 minutes; new buildings were started at the average rate of one every 47 minutes; scheduled occupancy of buildings was a structure each 43 minutes; and actual occupancy was a new building each 38 minutes. With the start of construction 45 days were required before a building was ready for occupancy, but at the work's close buildings were ready in 30 days. As a result, the average elapsed time between starting a building and its occupancy was 37½ days. Had it been possible to assemble materials and labor, and had authorization for the entire project been given at the start, all buildings could have been completed in 37½ working days or at the rate of one every 21 minutes, based on actual progress made.

Shown above is the replacement center which is to house 7,900 officers and selectees. Other housing construction required included units for about 8,600 officers and men in the garrison increase and 1,700 officers and trainees at the service school. A breakdown of the total cost into the cost per man to be housed is about $315 for housing, $190 for specialized buildings, and $240 for utilities.

Fort Riley is reported as the first army cantonment project where metal siding combined with steel casement sash was authorized in lieu of wood siding and double hung wooden sash. Records indicate that the cost of the buildings was increased by the use of these materials. Although they constitute good construction and present a pleasing appearance, their use as material comparable in cost to wooden construction depends on more rigid standardization which will reduce field operations, it is reported.

Widmer Engineering Co., Junction City, Kan., was the architect-engineer for the project, and Long-Manhattan-Watson, Fort Riley, the general contractor. Lt. Col. J. S. Underwood acted as constructing quartermaster for the project.

OBITUARY

CLEMENT C. CANNON, 64, civil engineer who helped build the old locks on the Trinity River in Texas and from 1917 until 1932 worked with the Texas State Highway Department, died in Dallas late in June.

STEPHEN PRICE MAURY, 90, former city engineer of San Antonio, Tex., died early this month. At one time he was employed at the Hog Island Navy Yard at Philadelphia.

M. LEON ELLIS, 45, who organized the Leon Ellis Co. 15 years, died July 13 at Cherry Grove, S. C. For many years he was associated with R. G. Lassiter & Co.

HAPPY H. VAL, construction engineer once employed on the construction of the Panama Canal, died at Ashtabula, Ohio, July 3.

JAMES A. MCILWEE, 77, well known tunnel construction contractor in the West, died recently at Salt Lake City. He built the Larimer-Poudre tunnel near Fort Collins, Colo.

MARK E. HAMER, 50, member of the firm of Hamer Bros., Detroit contractors, died in Flint, Mich., July 13. Mr. Hamer, who was living in Indianapolis, Ind., at the time of his death was in charge of the grade separation job near Fenton, Mich., for the Hamer firm. He was a graduate of Indiana University in the class of 1915.

ROBERT WAKEFIELD MORRISON, 93, president of the R. W. Morrison Construction Co., until his retirement 16 years ago, died in St. Louis July 11. Mr. Morrison erected many large St. Louis buildings early in the century.

PAUL-EMILE MAILLET, 53, civil engineer and land surveyor, died July 15 in Ottawa, Ont.

COOPER BOYD, 46, registered civil engineer, drowned in Lake Erie July 13 at Cleveland, Ohio. Mr. Boyd had been employed by the Cuyahoga County planning commission nearly five years. For the last two years, "on loan" from the planning commission, he had been working as one of the supervising engineers on the federal geodetic survey of Cuyahoga County.

GEORGE F. DEWEY, from 1907 until 1936, engineer of the city of Cairo, Ill., died last week in that city. He was a civil engineering graduate of the University of Illinois.

RUDOLPH J. LOPEZ, 28, construction engineer employed by the Edward A. Daylor Co., Coatesville, Pa., was killed July 13 when he fell from a highway project between Swathmore and Chester, Pa. Mr. Lopez, who graduated from Villanova College in 1934, for a time was employed on the construction of the Pennsylvania Turnpike.

WILLIAM LETWINIK, 58, excavating contractor in Minneapolis for more than 30 years, died recently in the Twin Cities.

GERALD F. HELGASON, 49, assistant, superintendent of street construction for the city of Milwaukee for the past 20 years, died July 15. He had been an employee of the city for 29 years.

CYRUS KEHR, 85, pioneer in national planning and patent lawyer, died July 14, in Washington, D. C.

GEORGE F. WHITTEMORE, senior engineer, of the river and harbor subdivision of the Los Angeles Engineer District, died July 15. Mr. Whittemore had been in river and harbor work with the Corps of Engineers for approximately 38 years, having been assigned at various times to the New York, Portland, Honolulu, Little Rock, San Francisco, Mobile, St. Louis, and Los Angeles engineer districts.

CONTRACTS AND CAPITAL

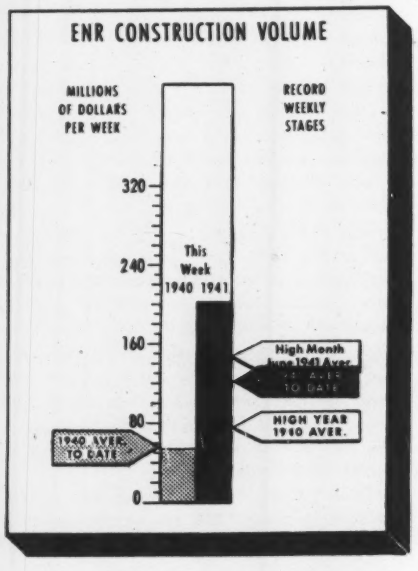
WITH THE CONTINUED rapid pace of the second defense construction program, engineering award volume for the week, $205,877,000, tops the $200,000,000-mark for the third straight week, and reaches the fourth highest peak ever reported. The total is 0.5 percent below the near-record volume of a week ago, but is 293 percent higher than in the corresponding 1940 week.

Public construction is up 0.5 percent compared with a week ago, and 381 percent higher than a year ago. Private awards are 11 percent below last week, but gain 19 percent over last year.

The week's construction brings 1941 awards to $3,626,972,000, an increase of 109 percent over the 1940 30-week total. Private awards for the period, $805,793,000 are 46 percent above last year. Public construction, $2,821,179,000, is up 138 percent due to the 428 percent increase in federal work.

Public building awards, $111,147,000, reached the fourth highest peak of the year primarily as a result of four large defense plant contracts totaling $80,000,000. In addition to public buildings, waterworks, sewerage, industrial buildings, earthwork and drainage, and unclassified gain over a year ago. Increases over last week are in waterworks, sewerage, and earthwork and drainage.

New capital for construction purposes for the week, $10,889,000, is 52 percent below the total for the corresponding 1940 week. New financing for the year to date, $4,933,559,000, is 190 percent higher than the volume reported for the 30-week period last year.



CONTRACTS
(Thousands of dollars)

	Week Ending July 25 1940	July 17 1941	July 24 1941
Federal	$15,071	$155,340	$173,622
State & Municipal	24,557	34,302	17,034
Total public...	$39,628	$189,642	$190,655
Total private..	12,752	17,123	15,222
TOTALS	$52,380	$206,765	$205,877
Cumulative 1941.....(30 weeks).....			$3,626,972
1940.....(30 weeks).....			$1,737,468

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	1940 30 weeks	Cumulative 1941 30 weeks
NON-FEDERAL	$916,234	$906,178
Corp. Securities....	110,876	281,576
State & Mun.....	526,061	294,827
U.S.H.A. loans.....	87,204	26,398
R.F.C. loans.....	8,093	55,874
R.E.A. loans	.....	100,500
Federal Aid—Hwy..	184,000	163,000
FEDERAL	$783,572	$4,027,380
TOTAL CAPITAL....	$1,699,806	$4,933,558

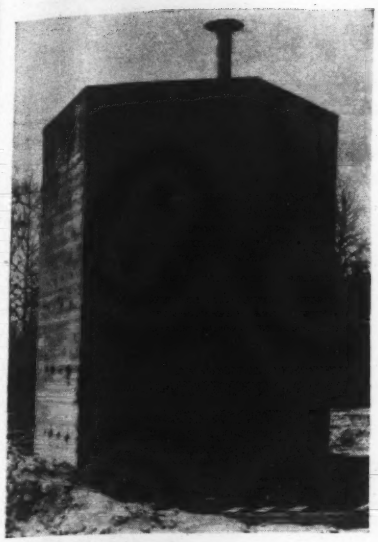
FHA MORTGAGES

	Week Ending July 20 1940	July 12 1941	July 19 1941
Selected for appraisal ...	$26,505	$30,794	$32,376*
Cumulative 1941.....(29 weeks)....			$843,954*
1940.....(29 weeks)....			$712,284

* Subject to revision.

ENR INDEX NUMBERS

Index Base=100		1913	1926
Construction Cost..	July '41..	258.18	124.33
Building Cost.....	July '41..	210.22	113.64
Volume	June '41..	492	216



Bomb-proof shelters

To protect observers studying the explosive qualities of new types of ammunition, bomb-proof shelters of the types shown above have been erected at the Jefferson Proving Ground, Madison, Ind. by the War Department. By means of these observations the War Department is enabled to obtain accurate knowledge of the destructive qualities of the explosives produced by the Army's new ordnance plants.

To insure the safety of the observer the shelters must be of unusually heavy construction. They have an outside measurement of 7x8 ft. and are built of heavy reinforced concrete with walls from 12 to 18 in. thick. The 18-in. thick roof is reinforced with steel I-beams and the only entrance is through a steel door of 5/8-in. boiler plate. Through a 1/2-in. slit in the front of the building the observers watch the explosive action. This slit is a series of stepdown ridges, composed of metal, from top and bottom to center, so that any fragment that may strike near the opening will be deflected from the center. On the slit inside is placed a 1-in. thick sheet of multi-plate bullet-proof glass. After completion, the entire structure, except in front, is covered with earth.

Big power expansion

(*Continued from p.* 1)

the commission with the statement that it had been prepared in cooperation with the electric utilities.

These proposals are based on the assumption that by 1943 defense production will be using about 20,000,000 kw. of electricity, of which some 11,000,000 kw. will represent displacement of normal load. The upper limit of the expansion plans is based on the capacity of the manufacturers of generators and turbines. The FPC has suggested that an RFC-financed corporation be formed to place sufficient orders for generating equipment to assure capacity operations of the manufacturers. Standardization of designs would be followed as much as possible in building the steam plants in order to speed production.

That substantial expansion of electric capacity will be undertaken is certain. Still somewhat in doubt is the administration of the program. OPM this week announced the formation of a power section, under J. A. Krug, power manager of TVA. As this is written it appears that Krug's section, in cooperation with FPC will do the job. The President however, is known to be giving consideration to a plan under which administration of the power program would be assigned to Secretary of the Interior Ickes. This would doubtless mean that a larger proportion of new capacity would go into publicly owned hydro plants.

In the event that OPM and FPC keep the job, a guide as to the outlines of the hydro program is offered by the tentative list of projects proposed by FPC. This list is subject to change after consultations with OPM and the various construction agencies involved but will probably be adhered to in the main.

New legislation

It is not yet clear just what legislation, if any, would be required to put these projects into effect. Installation of generators in presently authorized projects could probably be undertaken without Congressional action under the President's emergency powers, but it is not certain whether these powers would extend to starting a new dam project without authorization.

Hydroelectric Projects Proposed by Federal Power Commission

Drainage Basin	Project Name	State	Installed Capacity, Kw.	Year Completed
Merrimack River	Blackwater	N. H.	7,000[1]	1943
" "	Lower Hillsboro	N. H.	12,000	1945
" "	Bennington	N. H.	Storage	1943
" "	Livermore Falls	N. H.	12,000	1944
" "	Franklin Falls	N. H.	14,000[1]	1944
Connecticut River	Knightsville	Mass.	5,000[1]	1943
" "	Newfane	Vermont	40,000	1946
" "	Upper 15 Mile Falls	N. H.	70,000	1946
" "	Victory	Vermont	Storage	1944
" "	Enfield	Conn.	30,000	1943
St. Lawrence "	St. Lawrence	N. Y.	550,000	1944
			350,000	1945
Black River	Panther Mountain	N. Y.	Storage	1943
Susquehanna River	Safe Harbor	Pa.[1]	60,000[2]	1946
" "	Conowingo	Md.[1]	72,000[2]	1946
Clarion River	Mill Creek	Pa.	60,000	1946
" "	Foxburg	Pa.	50,000	1946
Youghiogheny River	Confluence	Pa.	24,000[1]	1943
" "	Crollin	Md.	Storage	1943
" "	Victoria A	Pa.	19,000	1943
" "	" B	Pa.	15,000	1943
" "	" C	Pa.	10,000	1943
" "	" D	Pa.	Storage	1943
" "	Sang Run	Md.	30,000	1943
" "	Swallow Falls	Md.	15,000	1943
Cheat River	Cheat #12	W. Va.	50,000	1945
" "	" #14	W. Va.	40,000	1946
" "	" #15	W. Va.	40,000	1946
" "	" #18	W. Va.	40,000	1946
" "	" #13B	W. Va.	60,000	1946
New River	Bluestone	W. Va.	60,000	1943
Juniata River	Raystown	Pa.	60,000	1946
Tennessee River	Hiawassee-Ocoee	N. C.	210,000	1943
" "	Holston	Tenn.	135,000	1944
" "	Fontana	N. C.	300,000	1945
Cumberland River	Wolf Creek	Ky.	125,000	1946
Santee River	Blairs	S. C.	40,000	1946
" "	Clinchfield	S. C.	Storage	1945
" "	Frost Shoals	S. C.	20,000	1946
Yadkin River	High Point	N. C.	21,000	1944
Savannah River	Clark Hill	S. C.	70,000	1944
			70,000	1946
Coosa River	Allatoona	Ga.	33,000	1944
Chattahoochee	Roswell	Ga.	25,000	1946
Potomac River	Millville	W. Va.	50,000	1945
" "	Harpers Ferry	W. Va.	30,000	1946
Michigamme River	Way Dam	Mich.	Storage[1]	1943
" "	Peavy Falls	Wis.	15,000	1943
Arkansas River	Nimrod	Ark.	7,000[1]	1943
" "	Markham Ferry	Ark.	30,000	1943
" "	Fort Gibson	Ark.	30,000	1943
Red River	Denison	Okla.-Tex.	70,000[1]	1944
White River	Norfolk	Ark.	60,000[1]	1943
" "	Bull Shoals	Ark.	110,000	1945
" "	Table Rock	Mo.	60,000	1946
Neches River	Rockland	Texas	9,000	1945
" "	McGee Bend	Texas	15,000	1945
" "	Dam A	Texas	5,000	1945
" "	Dam B	Texas	5,000	1945
Brazos River	Whitney	Texas	20,000	1944
Guadalupe River	Canyon	Texas	10,000	1945
Columbia River	Grand Coulee	Wash.	324,000	1943
			108,000	1944
			108,000	1945
			108,000	1946
Puget Sound	Nisqually	Wash.	90,000	1944
Fayette River	Scriver Creek	Idaho	50,000	1946
Flathead River	Hungry Horse	Mont.	172,000	1946
Snake River	Anderson Ranch	Idaho	30,000	1946
Sacramento River	Cresta	Calif.	68,000	1943
" "	Pulga	Calif.	80,000	1943
San Joaquin River	Red Mountain Bar	Calif.	15,000	1943
Sacramento River	Shasta #5	Calif.	75,000[1]	1944
" "	Keswick	Calif.	75,000	1944
Colorado River	Boulder	Ariz.-Nev.	2-82,500[2]	1943
" "	Parker #4	Ariz.-Calif.	30,000[2]	1943
" "	Bulls Head	Ariz.-Nev.	90,000	1945
San Joaquin River	Pine Flat	Calif.	15,000	1945

[1] Addition of generating units at project now under construction. [2] Addition of units at existing project.

CONTRACT UNIT PRICES

What contractors are bidding on different kinds of construction work

AIRPORT PAVING
HOUSTON, TEXAS

OWNER: U. S. Engineer Office, Galveston, Tex.

PROJECT: Paving two runways and one taxi-way, including clearing, grading, drainage and other incidental work at Houston Municipal Airport on Houston-Alvin Highway, 8 miles southeast of main section of Houston. Portions of existing shell runways crossed by proposed concrete pavement to be excavated, and shell reclaimed and stockpiled. This reclaimed shell, and new shell needed, to be placed in uniform layer on approved stabilized course over entire area to be paved.

CONDITIONS: Contractor to furnish all materials and complete work in 180 calendar days. To obtain sufficient water, contractor must place and maintain own water line to source of supply, or furnish water by making other arrangements. Highway transportation facilities available. Wage rates specified are: skilled labor, $1.12½ to $1.50 per hr.; semi-skilled, 40c. to $1.00; and common labor, 40c.

BIDS: Nine bids were received May 5, 1941, ranging from the low of $348,882 to $407,428. Engineer's estimate, $434,888.

LIST OF BIDDERS:

1. Russ Mitchell, Inc., Houston, Tex. (contract) $348,882
2. George Kies, Inc., Austin, Tex 349,028
3. Cage Bros. & H. E. Williams, Bishop, Tex 367,288
4. L. H. Lacy Co., Dallas, Tex 370,896
5. Harrison Engr. & Constr. Co., Kansas City, Mo 392,094
6. Briggs-Killian Co., Inc., San Antonio, Tex. 393,146
7. Gaylord Constr. Co., Houston, Tex 393,370
8. Brown & Root, Inc., Houston, Tex 397,879
9. T. L. James & Co., Ruston, La 407,428

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Excavation	117,600 c. y.	$0.24	$0.25	$0.52
2. Shell; reclaimed	25,000 c. y.	.38	.40	.45
3. Shell; new (all required)	c. y.	3.00	1.80	1.75
4. 15-in. corr. met. pipe; remov. exist. pipe, incl. earthwk	800 l. f.	.45	.30	.44
5. 18-in., as above	1,850 l. f.	.50	.30	.46
6. 24-in., as above	2,710 l. f.	.55	.35	.65
7. 30-in., as above	3,460 l. f.	.65	.50	.76
8. Relay 15-in. corr. met. pipe, reclaimed; incl. earthwork	600 l. f.	.55	.30	.51
9. 18-in. pipe, as above	1,730 l. f.	.60	.30	.64
10. 24-in. pipe, as above	2,505 l. f.	.70	.35	.87
11. 30-in. pipe, as above	3,285 l. f.	.85	.50	1.10
12. 36-in. bit. coat. corr. met. pipe	1,000 l. f.	6.50	7.00	6.85
13. 42-in. bit. coat. corr. met. pipe	2,250 l. f.	7.60	8.00	8.20
14. 15-in. bit. coat. corr. met. pipe; as needed for rejected exist. pipe	l. f.	2.00	2.30	2.20
15. 18-in. pipe, as above	l. f.	2.40	2.60	2.80
16. 24-in. pipe, as above	l. f.	3.60	3.60	3.90
17. 30-in. pipe, as above	l. f.	4.50	4.80	4.85
18. 8-in. conc. pipe, open joint	17,700 l. f.	.70	1.36	.58
19. 8-in. conc. pipe, closed joint	1,910 l. f.	.50	.47	.62
20. Remove existing inlets	12 ea.	10.00	40.00	10.00
21. Concrete inlets	12 ea.	60.00	100.00	55.00
22. Prefabricated inlet fittings	5 ea.	200.00	200.00	175.00
23. Concrete pavement	151,900 s. y.	1.70	1.63	1.59
24. Remove exist. airport lights	L.S.	300.00	200.00	500.00
25. Conduit, fiber, bituminized	4,150 l. f.	.70	.60	.40

RUNWAY AND TAXIWAY PAVING
BOEING FIELD, WASH.

OWNER: Civil Aeronautics Administration, represented by the U. S. Engineer Office, Seattle, Wash.

PROJECT: Paving NNW/SSE runway, grading NW/SE runway, grading and paving taxiway and installing drainage at King County Airport (Boeing Field), Seattle, Wash. The major features are: grading; sub-base preparation; concrete runway pavement; bituminous taxiway paving; and drainage system.

CONDITIONS: Contractor to furnish all materials and complete work in 100 calendar days. Highway and railroad transportation facilities available. Wage rates are: skilled labor, $1.35 to $1.75 per hr.; semi-skilled, $1.10 to $1.40; and common labor, 95c.

BIDS: Three bids were opened May 26, 1941, ranging from the low of $239,520 to $258,083. Engineer's estimate $255,844.

LIST OF BIDDERS:

1. Northwest Constr. Co., Seattle, Wash $239,520
2. Fiorito Bros., Inc., Seattle, Wash 252,828
3. N. Fiorito Co., Seattle, Wash 258,083

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Grading NW/SE runway	31,000 s. y.	$0.15	$0.05	$0.10
2. Grading taxiway	21,600 s. y.	.10	.05	.10
3. Preparation NNW/SSE runway sub-base	132,000 s. y.	.05	.05	.05
4. Crushed rock in place	3,500 c. y.	2.00	2.15	2.50
5. Gravel ballast course, in place	9,000 c. y.	1.00	.75	1.10
6. Bitum. binder crse. RC-3, in place	26 ton	25.00	17.50	18.50
7. Dense graded plant mix, in place	2,300 ton	5.50	4.00	4.00
8. Asphaltic-cement, 121–150	150 ton	25.00	19.00	20.00
9. Asphaltic-cement, 86–100	10 ton	25.00	19.00	20.00
10. Bitum. sealcoat, RC-2	26 ton	30.00	23.00	24.00
11. Screenings	185 ton	2.00	3.10	3.50
12. Concrete runway pavement	128,000 s. y.	1.37	1.44	1.55
13. Excavation for drains	500 c. y.	1.50	1.50	1.00
14. Selected bkfill. for drains	350 c. y.	3.00	3.00	3.00
15. 8-in. conc. culvert pipe	4,000 l. f.	.40	.50	.40
16. Catch basins	50 ea.	15.00	30.00	20.00
17. Grates and covers	50 ea.	23.00	20.00	20.00
18. Raise manholes	20 ea.	15.00	15.00	20.00
19. Concrete gutter	7,200 l. f.	1.10	3.00	1.10
20. Asphaltic drain gutter	700 l. f.	.40	.48	.50
21. Move contact lights	50 ea.	50.00	52.00	24.00

FLOOD WALL, OHIO

OWNER: U. S. Engineer Office, Pittsburgh, Pa.

PROJECT: Construction of flood wall and appurtenant works for Part 2 of Wellsville Flood Control Project, Wellsville, Columbiana County, Ohio, involving the following major features: concrete wall; dike; pump house; diversion drain.

CONDITIONS: Contractor to furnish all materials and complete work in 270 calendar days. Highway and railroad transportation facilities available. Work is adjacent to main tracks of Pennsylvania Railroad, and care must be taken that traffic over tracks is not interrupted nor endangered. Wage rates prevailing in vicinity of work considered minimums.

BIDS: Three bids were opened April 28, 1941, ranging from $90,503 to $122,423. Engineer's estimate $123,346.

LIST OF BIDDERS:

1. Sanctis Construction, Inc., Pittsburgh, Pa. (contract) $90,503
2. Galier Bros., Cleveland, Ohio 110,618
3. Bert A. Jacobsen, Pittsburgh, Pa. 122,423

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Clearing and grubbing	L. S.	$1,000.00	$1,500.00	$1,000.00
2. Remove existing structures	L. S.	500.00	200.00	1,000.00
3. Common excavation	2,300 c. y.	.50	1.00	1.50
4. Excav. in borrow area, incl. haul	27,100 c. y.	.55	1.00	.60
5. Special excavation	5,800 c. y.	1.20	1.25	2.25
6. Compacted fill	5,400 c. y.	.70	.75	1.00
7. Uncompacted fill	350 c. y.	.40	.25	.10
8. Impervious fill in dike	25,000 c. y.	.35	.20	.35
9. Gravel fill	1,500 c. y.	2.10	2.25	3.00
10. Conc. for misc. structures	245 c. y.	20.00	17.00	25.00
11. Concrete in pumping station	405 c. y.	20.00	30.00	18.00
12. Furn., place reinforcing steel	60,000 lb.	.07	.06	.06
13. Furnishing cement	900 bbl.	2.25	2.50	3.00
14. Copper water stops	150 lb.	.50	1.00	.80
15. 39-in. concrete pipe	1,860 l. f.	6.00	6.00	10.00
16. Cast iron pipe	7,300 lb.	.10	.05	.06
17. 6-in. drain tile	250 l. f.	.60	.25	.20
18. Construct manhole and track inlets	L. S.	700.00	2,000.00	1,139.00
19. Furn., install valves (complete)	L. S.	1,000.00	600.00	1,000.00
20. Remove and relay pavement	L. S.	1,500.00	3,300.00	800.00
21. Miscellaneous metal	3,950 lb.	.12	.15	.20
22. Relocate railroad track	L. S.	100.00	1,000.00	1,000.00
23. New cross-ties	90 ea.	.80	4.00	2.00
24. Pumping station	L. S.	15,000.00	18,000.00	20,000.00

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, Manager *SCOTT McLEOD, Statistician*
(Daily service also available—Write for details)

Location of ENR Correspondents

Symbols and Abbreviations Include:

★ Federal Government
* Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction
(Named in order of Listing)

Water Supply — Unclassified
Sewers, Waste Disposal — Latin America
Bridges, Grade Cross'gs — Public Buildings
Streets & Roads — Commercial Buildings
Earthwork, Waterways — Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads):

BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);

LOW BIDDERS: All low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

WATER SUPPLY

PROPOSED WORK

Ill., Galesburg—Imprv. WW sys. A. Nordheim, city engr. Stanley Eng. Co., Muscatine, Ia., engrs.

Ill., Rock Island—R. P. Galbraith, mayor, constructing, and erecting standpipe, 38 St. Dist. and exten. mains. $100,000.

Ia., Batavia—WW sys. $22,000 CD 3/8—ENR 3/14.

Ia., Des Moines—Polk Co., watermains in Bloomfield Twp. connecting with city watermains. $15,000.

Kan., Rossville—C. Strimple, mayor, water sys. $20,000. Paulette & Wilson, 1006 Kansas Ave., Topeka, engrs.

Md., Sparrows Point—Bethlehem Steel Co., Sparrows Point, preliminary plans c.i. watermains. R. H. Stevans, c/o owner, engr.

Minn., South St. Paul—2 m.g. underground concrete reservoir. Over $75,000 (not official). J. F. O'Donnell, city recdr.

Neb., Bellvue—Exten., imprv. water sys. Approx. $350,000. Will apply for PWA funds. Henningson Eng. Co., Standard Oil Bldg., Omaha, Neb., engrs.

Neb., Omaha—Metropolitan Utilities Dist., 18 and Harney Sts., exten., imprv. WW sys. $470,000. Plans application to PWA.

N. Y., Waterloo—Water storage tank. Over $15,000.

★**O., Canton**—WW imprv., storage reservoir, exten. mains, etc. $2,000,000. J. Shisler, city engr.

★**O., Sandusky**—Additional water facilities, etc. $500,000. Application to PWA.

O., Sycamore—Imprv. waterworks sys., water softening plant. $20,000. H. P. Jones Co., Second Natl. Bank Bldg., Toledo, engrs.

★**Okla., Oklahoma City**—E. Simon, city clk., postponed bids to have been opened July 29, Bluff Creek, impounding reservoir-earthen dam, 4½ million cu. yd., and 2 million cu. yd. canal, intake works, siphon, bank protection and spillway for reservoir. $2,460,000. V. Long & Co., Colcord Bldg., Oklahoma City, engrs. CD 7/18—ENR 7/24.

Pa., Corry—Corry Water Serv. Co., R. Greene, mgr., exten. c.i. watermains. $20,000.

Pa., Wyomissing—Boro Council, 1 m.g. water supply reservoir on hill between Wyoming and Forest Aves., incl. pump house with 320 gpm pump, equip. Over $15,000. I. Hafer, boro engr. CD 5/26—ENR 5/29.

Tenn., Cleveland—City Water Dpt., C. W. Harle, comr., water pipeline from Hiwasse River to city.

Tenn., Kingsport—W. L. Holyoke, dir. P. Wks., watermains, etc. $40,000.

Tex., Bracketville—C. B. Ballantyne, mayor, WW imprvs. 100,000 gal. elevated tank, treating plant, pumps. $30,000. Will file application with PWA. R. L. Sonfield, 1803 Sterling Bldg., Houston, engr.

Tex., Pelly—Expansion, imprvs. WW sys. $60,000. Garrett Eng. Co., 918 Richmond St., Houston, engrs.

★**Utah, Ogden**—E. T. Saunders, comr. Waterworks, election to vote bonds extend. watermains to outlying residential districts and new government defense project. $2,500,000. J. C. Brown, city engr.

Utah, Salt Lake City—W. D. Beers, city engr., City & County Bldg., exten. watermains to munitions plant. $300,000.

Wash., Everson—Water distr. sys. Water district being former in area outside city.

Wash., Oroville—WW sys. imprvs. $5,000.

Wash., Tacoma—Pierce Co. Fire Dist. 2, c/o R. D. Johnson, Steilacoom Lake, water distr. sys. 15 mi. southwest of here. Parker & Hill, Smith Tower, Seattle, engrs.

Wis., Cudahy — State Pub. Serv. Comm. authorized city to construct water filtration plant, elevated tank. $210,000. Consoer, Townsend & Quinlan, 211 Wacker Dr., Chicago, Ill., engrs.

Wis., Peshtigo — I. Stibbe, city clk., WW sys. $59,635. A. E. McMahon Eng. Co., Menasha, engr.

BIDS ASKED

Bids Asked July 29

O., La Grange—Bd. Village Trustees, M. B. Halliwill, clk., water pump. plant. $18,000. P. W. Elwell, 5005 Euclid Ave., Cleveland, engr.

★**Okla., Oklahoma City**—E. Simon, city clk., Bluff Creek impounding reservoir-earthen dam 4½ million cu. yd., and 2 million cu. yd. canal, intake works, siphon, bank protection and spillway for reservoir. $2,460,000. V. Long & Co., Colcord Bldg., Oklahoma City, engrs. CD 7/1—ENR 7/10.

Bids Asked August 4

Pa., Montoursville — Boro Council, 300,000 gal. circular concrete reservoir, concrete asbestos pipe line to connect with E. Broad St. sys. $25,500. Gannett, Eastman & Fleming, Inc., 600 N. 2 St., Harrisburg, engrs. CD 7/11—ENR 7/17.

Bids Asked August 14

N. C., Concord—W. A. Wilkinson, mayor, and Bd. Water & Light Comrs., L. A. Fisher, supt., 6 m. g. filter plant, 2 m. g. concrete reservoir, 100,000 gal. elevated tank, pipe line, etc. Gilbert C. White Co., Burham, engr.

Bids Asked about August 15

Ia., Corning—Artificial lake for city water reservoir. $35,000. Henningson Eng. Co., 626 Standard Oil Co. Bldg., Omaha, Neb., engrs. CD 7/21—ENR 7/17.

LOW BIDDERS

†**Arkansas**—U. S. Eng., Gay Bldg., Little Rock, July 18, clearing 4,600 acres for conservation pool from Schutt Constr. Co., Genoa, Wis., **$138,997.** CD 7/3—ENR 7/10.

Calif., San Diego—City, July 8, trenching, laying pipeline from University Heights Reservoir, to Upas St., from R. E. Hazard & Sons, 2548 Kettner St., **$25,549*****furnishing pipe, from American Cast Iron Pipe Co., 412 W. 6 St., Los Angeles, **$53,463.** CD 6/23—ENR 6/26.

Ill., Decatur—J. L. Rehfelt, city comr., WW imprvs. from R. W. Christy, Decatur, **$119,846.** CD 4/16—ENR 4/24.

†**La., Lake Charles**—U. S. Eng., foot of Prytania St., New Orleans, July 15, 400,000 gal. elevated steel water tank. Advance Single Engine School, here, from Pittsburgh-Des Moines Steel Co., 1015 Tuttle St., Des Moines, Ia., **$45,230.** CD 7/8.

★**N. Y., New York**—Comr. Water Supply, Gas & Electricity, Municipal Bldg., July 15, furnishing, del., laying, steel, c.i. Watermains, Cooper, Metropolitan and 82 Aves., Kessell, 69 and 132 Sts., Yellowstone Blvd., Union Turnpike, Utopia Parkway, Park Dr. and in Park Lane, Queens Boro, from Carmine Petracca, 59 Taaffe Pl., Brooklyn, **$516,272.** CD 7/3—ENR 7/10.

O., Fostoria—F. E. Blaser, dir. Pub. Serv., July 7, reservoir excav., erecting pump. station, standpipe fdns., from Holmes Constr. Co., 443 Palmer St., Wooster, **$174,385;** standpipe, Pittsburgh-Des Moines Steel Co., Neville Island, Pittsburgh, Pa., **$47,700.** Est. $238,000. CD 6/25—ENR 6/12.

CONTRACTS AWARDED

Calif., Burlingame—Water, sewerage sys., paving streets in Burlingables Oak Grove Manor, to L. C. Smith, 1 and Railroad Sts., San Mateo, **$34,290.** Est. $39,000. Bids 7/7. CD 6/23—ENR 6/26.

★**Conn., Waterbury**—Street, Sewer & Water Dpt., 114 Benedict St., 13 mi. 12- to 42-in. pipe-lines, to Lock Joint Pipe Co., Newington Ave., Newington, **$895,000.** CD 7/15 — ENR 7/17.

★**Fla., Tampa**—R. E. L. Chancey, mayor, laying 150 mi. watermains, to Boyce Co., Clearwater, Cone Bros. Contg. Co., Caesar and Walton Sts., and C. T. Dawkins, 2613 Sunset Dr., Tampa, **$1,458,810;** pump. plant, to Burford, Hall & Smith, 140 Edgewood Ave. N.E., Atlanta, Ga., **$42,466.** Bids 4/16. CD 3/10—ENR 3/13.

†**Ind., Fort Benjamin Harrison**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., 300,000 gal. water tank, to Pittsburg-Des Moines Steel Co., 38 S. Dearborn St., Chicago, Ill., **$36,200.**

Ia., Davenport—Davenport Water Co., water plant imprvs., 3 pump. units, change to gravity sys., own forces. **$60,000.** CD 1/10—ENR 1/18.

†**La., Alexandria**—Con. Q.M., Camp Claiborne, drilling 4 deep water wells, Camp Claiborne, to I. B. White Drilling Co., Alexandria, **$54,420.**

†**Me., Portland**—Con. Q.M., Fort McKinley, removing elevated steel water tank and erecting water storage stand pipe, to Pittsburgh-Des Moines Steel Co., 38 S. Dearborn St., Chicago, Ill. **$34,900.**

†**N. J., Fort Dix**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., equipping and housing well, to Aryesian Well & Equipment Co., Inc., 30 Church St., New York. **$15,475.**

N. Y., Sidney—Bd. City Trustees, water sys. imprvs., to J. Howe, Sidney Center. Est. **$60,000.** CD 4/15—ENR 4/17.

†**Pa., Middletown**—U. S. Eng., 332 Post Office Bldg., Baltimore, Md., pump. station, Army Air Depot, to Thomas M. Flanaghan, Amer. Casualty Bldg., Reading, **$113,368.** Bids 6/10, awarded 7/14. CD 5/26—ENR 5/29.

Tex., Albany — D. G. Curb, mayor, WW imprvs. **WPA. $99,000.** Freese & Nichols, Capps Bldg., Fort Worth, engrs. CD 6/27—ENR 7/3.

Tex., Albany—D. G. Curb, mayor, WW imprvs. Sect. 1, to National Cast Iron Pipe Co. 2009 Main St., Dallas, **$38,905.** Est. $40,000.

Tex., Groves—Jefferson Co. Water Dist. 1, Groves, WW and sanitary sewer imprvs. **WPA. $62,000.**

Tex., Rockwall—B. F. Halford, mayor, drilling, cementing, completely developing deep water well and installing turbine, to Layne-Texas Co., 4915 Abbott St., Dallas, **$16,274.** Est. $15,000. Bids 7/5. CD 7/1—ENR 4/24.

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Calif., Bakersfield—North of River (County) Sanitary Dist. 1, N. Chester Ave., rejected bids July 14, sanitary sewerage sys., treatment plant, pump. sta., etc. $312,000. Project indefinitely postponed. R. E. White, 2617-20 St., engr. CD 7/1.

Calif., Los Angeles—Sanitary sewers in Layton Dr. and Sunset Blvd. Sewer Dist. $41,300. L. Aldrich, City Hall, engr.

SEWERS, etc. (Proposed Work, Cont'd.)

Calif., San Mateo—City Eng. Dpt., completed plans, 8,800 lin. ft. 4- to 8-in. vitr. and 1,608 lin. ft. 12-in. concrete storm sewer, Subdivision 2; 3,266 lin. ft. 4 and 6 in. vitr. sewers, 12 in. concrete storm sewer, 7 manholes, catchbasins, Rd. Imprv. 41-4.

Conn., Bristol—D. J. Donovan, supt. P. Wks., trunk and lateral sewers, disposal facilities, Forestville. Over $25,000.

★**Conn., Stratford** — W. Shea, town mgr., Town Hall, sewerage sys. exten., imprv. $500,000. T. F. Bowe, 110 William St., New York, N. Y., consult. engr. M. J. Jankowsky, Stratford, town engr.

†Ind., Connersville—Public Building Administration, Wash., D. C., sewage disposal plant for defense housing. $65,000.

Ia., Davenport — J. H. Jebens, mayor, extend sanitary sewerage sys. Over $50,000. Consoer, Townsend & Quinlan, 211 W. Wacker Dr., Chicago, Ill., engrs.

Ia., Lenox—D. L. Bare, town clk., exten. sanitary sewerage sys. $50,000. Henningson Eng. Co., 626 Standard Oil Bldg., Omaha, Neb., engr.

Kan., Highland Park—C. Read, clk., Topeka Twp., RFD from Topeka, sewers, sewage disposal plant. $35,000.

Kan., Manhattan—Sewage disposal plant, $200,000. Paulette & Wilson, Salina, engrs.

†N. J., Clark—Federal Works Agency, 7 and D Sts. S.W., Wash., D. C., vitr. tile sanitary sewers in streets of defense housing. $66,600. WPA.

N. J., Long Beach Twp.—Sanitary sewers in various streets, beach erosion control. $58,436. W. D. Cougle, 1102 S. Broad St., Trenton, WPA and owner's engr.

N. Y., Rome—City, City Hall, 250,000 g.p.d.c. sewer line to new air depot site. Over $50,000. S. Zingerline, city engr.

O., West Austintown—Mahoning Co. Comrs. sewer and water facilities from Austintown Center to vicinity Meander Dam and North to Orr's Corners and Silica Quarry Rd. $50,000-$60,000.

Pa., Emporium—Boro, E. D. White, burgess, sewage disposal plant (primary treatment). Chester Engineers, 201 E. Parkway, Pittsburgh, engrs.

Pa., Hellertown — Sewage disposal plant. $350,000. CD 7/9—ENR 7/10.

Tenn., Chattanooga—E. Bass, mayor, storm sewer between Brainerd Rd. and Spring Creek. $60,000.

Tex., Bracketville—C. B. Ballantyne, mayor, sanitary sewer imprvs. $170,000. Will file application with PWA. R. L. Sonfield, 1803 Sterling Bldg., Houston, engr.

Tex., Pelly—Exten. sanitary sewer lines. $40,000. Garrett Eng. Co., 918 Richmond St., Houston, engrs.

Tex., Texas City—C. Nessler, mayor, bids soon sanitary sewers, disposal plant $120,000; also storm sewers $40,200. J. J. Rady, Majestic Bldg., Fort Worth, engr. CD.

Tex., Texas City—Sanitary sewer collecting lines, disposal plant unit. $118,000. PWA.

★**Tex., West University Place** — F. Mainous, mayor, revised plans storm sewerage sys., $630,000. PWA. Garrett Eng. Co., 918 Richmond St., Houston, engrs. CD 5/26—ENR 5/29.

Wash., Winlock—Sewerage sys., treatment plant. Parker & Hill, Smith Tower, Seattle, engrs.

BIDS ASKED

Bids Asked July 30

†Md., Hyattsville — Washington Suburban Sanitary Comn., Owens Ave., vitr. sewers, Contr. 129-S; adv. ENR 7/24.

Bids Asked August 7

S. D., Sioux Falls—C. M. Whitfield, aud., imprv. sewage plant. $45,000. Greeley & Hansen, 6 N. Michigan Ave., Chicago, Ill., engrs. CD 7/15—ENR 7/17.

Bids Asked August 14

Ill., Chicago—Sanitary Dist. of Chicago, 910 South Michigan Ave., West-Southwest Sewage Treatment Works, Div. Q, in Stickney; adv. ENR 7/24.

CONTRACTS AWARDED

†Arix., Phoenix—U. S. Eng., 751 S. Figueroa St., Los Angeles, Calif., sewage treatment plant, Military Airport, Litchfield Park, to H. B. Nicholson, Chamber of Commerce Bldg., Los Angeles, Calif. **$74,969.**

Calif., Yountville—A. Boyd, state archt., P. Wks. Bldg., Sacramento, sewer lines, appurtenances, Veteran's Home, for State, to McGuire & Hooper, 1483 Hopkins St., Oakland, **$25,947.** Est. $25,000.

Ind., Chesterfield — Sewerage sys., **WPA. $101,000.**

Ia., Pekin—Sanitary sewer, **WPA. $175,000.**

Mo., St. Louis County—Hanley-Page Sanitary Sewer Dist. of St. Louis Co., c/o E. A. Fulton, 3 S. Meramec Ave., Clayton, engr., sanitary sewerage sys. throughout district. **WPA. $359,194.**

Neb., Bellevue—Elizabeth Smith, city clk., 70,620 ft. 8- to 12-in. vitr. clay sewers, sewage disposal plant, equip., etc., **WPA.** Approx. **$125,000.** H. H. Henningson, 626 Standard Oil Co. Bldg., Omaha, engr. CD 6/25—ENR 7/3.

N. J., Brant Beach—Long Beach Twp., Twp. Hall, sanitary sewers, 47, 49, 51 and 53 Sts. **WPA. $53,700.** CD 6/30—ENR 7/3.

†N. J., Clark—Federal Works Agency, 7 and D Sts. S.W., Wash., D. C., 18 in. c.i. and vitr. tile outfall sewers for defense housing. **WPA. $66,323.** CD 7/3—ENR 7/10.

N. J., Hamilton Twp.—Sheating, vitr. clay sanitary sewers, manholes, etc., Oldenhurst, DeLaval and White Horse Sts. **WPA. $73,100.** W. D. Cougle, 1102 S. Broad St., Trenton, WPA and owner's engr.

N. J., Kearny—Storm sewers, appurtenances, Belgrove Dr. and Passaic Ave., repaving with bituminous concrete, to Standard Bithulithic Co., foot of Brill St. **$131,608.** A. Brokaw, Town Hall, engr.

N. J., Newark—Passaic Valley Sewer Comn., 24 Branford Pl., sewers. **WPA. $53,800.** J. Ralph Van Duyne, 24 Branford Pl., engr.

N. J., Wrightstown—Everett Croshaw, mayor, sewerage sys. **WPA. $69,000.**

†Tenn., Tullahoma—Con. Q.M., sewerage sys. Camp Forest, to W. L. Hailey Co., Cotton States Bldg., Nashville. **$295,000.**

Tex., New Boston — J. R. McGee, mayor, sanitary sewerage sys., sewage disposal plant. **WPA. $73,890.** Albert C. Moore & Co., 2404 Smith-Young Tower, San Antonio, consult. engrs. CD 1/31—ENR 2/6.

Wis., Cudahy—Sanitary and storm sewers, watermains, S. Packard Ave., Contr. 1, to Wenzel & Henoch Co., 1524 W. 27 St., Milwaukee, **$26,459;** Contr. 2, to Tomaro Contractors, Inc., 3404 E. Armour Ave., **$22,787.** Bids 7/15. CD 7/10.

BRIDGES, GRADE CROSSINGS

PROPOSED WORK

Calif., Quincy—Plumas Co. made plans steel bridge on concrete abutments, over Indian Creek.

†Calif., San Bruno—Con. Q.M., Fort Mason, San Francisco, revised plans for Bridge 1 and 3rd phase of roads and sidewalks in Golden Gate Cemetery. Bids June 17 rejected. CD 6/23—ENR 6/26, under Roads, LB.

Ia., Davenport—J. H. Jebens, mayor, 2 bridges over Duck Creek and 1 over Black Hawk Creek. Over $25,000.

N. Y., Niagara Falls—W. D. Robbins, city mgr., hy. bridge over Gill Creek, East Falls St. Over $25,000. H. Wesley Clark, city engr.

O., Akron—Bridge over railroad tracks on Mill St., to replace present structure. $300,000. J. E. Soderberg, city engr.

Okla., Kingfisher—Hy. Dpt., Oklahoma City, preliminary plans bridge over Uncle Johns Creek on farm-to-market road east of here. $30,000. V. T. Moon, Oklahoma City, engr.

Pa., Florin—State Hy. Dpt., I. L. Hughes, secy., Harrisburg, bridge to replace 3 grade crossings on Pennsylvania R. R., at Chocolate Ave., Market and Plum Sts. $252,180. T. C. Frame, c/o owner, ch. engr.

★**Pa., Rankin**—Comrs. Allegheny Co., R. G. Woodside, controller, Pittsburgh, 4,000 ft. steel bridge, 44 ft. wide, Rankin Bridge and 2 approaches. Total est. $3,500,000. Bids Asked July 22, test borings, Contr. 1.

Tex., Junction—Hy. Comn., B. P. Gentry, chn., Austin, Starks Creek bridge, approaches, 0.584 mi. Hy. U.S. 290, FAP 287-(2). $26,000.

Tex., Port Isabel—Cameron Co., c/o County Judge, Brownsville, soon lets contract steel, concrete causeway connecting Pt. Isabel and Padre Island, $400,000. A. Tamm, Harlingen, engr. CD 7/3—ENR 7/10.

W. Va., Noland—Norfolk & Western Ry. Co., W. P. Wiltsee, ch. engr., Roanoke, 5 span steel, concrete railway bridge across Tug Fork of Big Sandy River. Over $25,000.

BIDS ASKED

Bids Asked July 28

Connecticut—State Hy. Comn., Wm. J. Cox, comr., Hartford, twin steel, rigid frame bridge over proposed Folly Blvd., 450 ft. approaches, Wethersfield; rein.-con. road slab on bridge over Connecticut River, Windsor Locks, East Windsor; 6,430 ft. 5 in. open grid steel floor or 2½ in. open steel grid floor on Niantic River Bridge, East Lyme and Waterford. Over $25,000.

Bids Asked July 29

Iowa—State Hy. Comn., Ames, 2 rein.-con. box culvert exten., County Trunk Rd. D, FSN 731 A(1); 5 rein.-con. box culverts, exten., County Trunk Rd. E, FSN 719 A(1); 10 rein.-con. box culverts and exten., County Trunk Rd. E, FSN 624, all foregoing in Sac Co.; one 30 ft. x 44 ft., rigid frame bridge, with two 5 ft. sidewalks, U.S. 69 plus 65, SN-FA 89(2), Polk Co.; 3 rein.-con. box culverts and exten., 150x22 ft. continuous I-beam bridge, County Trunk Rd. M, FSN 619 A(1) N; 7 rein.-con. box culverts, County Trunk Rd. X, FSM 249 A(1), both O'Brien Co.; 11 rein.-con. box culverts, exten., Iowa 9, FA 835 C(1), Lyon Co.; 18 rein.-con. box culverts, exten., pipe and flume outlets, Iowa 3, FA 122(5), Decatur Co.; 6 rein.-con. box culverts, exten., FM 19, Clinton Co.; 8 rein.-con. box culverts, exten., County Trunk Rds. M and C, FSN 607 A(1), [illegible] Carroll Co.; rein.-con. box culvert exten., County Trunk Road R, FAS 548 A(1), [illegible] Franklin Co.; 75 ft. x 20 ft. pony truss [illegible] to re-erect 1 span of new truss over Wapsipinicon River, Sect. 2, Fremont Twp., FSN 811, Bremer Co.; three 21x[illegible] ft. span steel bridge, Sect. 26-27, Portland Twp., FM [illegible] Cerro Gordo Co.; 40x22 ft. 1-beam bridge, County Trunk Rd. E, FM [illegible], Marshall Co.; F. R. White, Ames, engr.

North Carolina—State Hy. & P. Wks. Comn., Raleigh, structures 1.11 mi. P. 8583, Jackson Co., $50,000-$75,000; 6.58 mi. P. 6772, Scotland and Robeson Counties, $175,000-$200,000; structures 2.75 mi. P. 1026, Beaufort Co., $25,000-$50,000. W. V. Balser, Raleigh, engr.

Bids Asked July 30

Texas—D. C. Greer, engr., State Hy. Dpt., Austin, Sabine River Relief and Kay Creek Bridges, 0.21 mi. U. S. Hy. 80, Contr. 2, Wood and Smith Counties, $80,000; Clear Creek Bridge, 0.029 mi. Hy. 10, Denton Co.

Bids Asked July 31

Que., Iles Laval—J. D. Leclerc, secy.-trs., Town of Island of Laval, Ile Bigras, 300 ft. rein.-con. bridge over Riviere des Prairies, $40,000. Gohier & Dorais, 20 St. James St., E., Montreal, Que., engr. CD 4-23—ENR 5-1.

Bids Asked August 1

Georgia—State Hy. Dpt., Atlanta, overhead bridge and graded approaches, Alabama Great Southern R. R., on LaFayette-Trenton Rd., in Trenton, Dade Co.; overhead bridge with concrete paved approaches, Jones Ave., Atlanta and N. C. & St. L. R. R. and Southern R. R., Fulton Co., overhead bridge Seaboard Air Line R. R. with surface treated approaches and exten. concrete bridge culverts, Gwinnett Co.

Bids Asked August 4

Miss., Sumner — Bd. Supervs., Tallahatchie Co., bridge over upper Glendora Cutoff, Beat 4, Tallahatchie Co. $30,000.

Bids Asked August 5

Indiana—State Hy. Co., Indianapolis, bridge over White River, Contr. 2204, Marion Co.; bridge over Grapevine Ditch, Contr. 2205, St. Joseph Co.; bridge over Hoover Ditch, Contr. 2206; bridge over Little Elkhart River, Contr. 2207, both Elkhart Co.; bridge over Grand Calumet River, Contr. 2208, Lake Co.; bridges over Furlick Creek, Little Blue Grass Creek and Big Blue Grass Creek, Contr. 2209, Vanderburgh Co.; bridge over Sly Fork Creek, and bridge over Montgomery Creek, Contr. 2210, Henry Co.; bridge over Lines Ditch, Wabash and Whitley Counties, bridge over Mississinewa River, Wabash Co., Contr. 2211; bridge over Raccoon Creek, Contr. 2212, Montgomery Co.; bridge on Blue River, Contr. 2188, at Fredericksburg, Washington Co.

Bids Asked August 6

Indiana—State Hy. Comn., J. D. Adams, ch., Indianapolis, 72 ft. rein.-con. arch bridge over Montgomery Creek, Henry Co.; 72 ft. bridge over Little Elkhart River, 36 ft. bridge over Hoover Ditch, both Elkhart Co.; 176 ft. continuous steel beam bridge over Blue River, Washington Co.; 100 ft. and 60 ft. bridges over Little Blue Glass Creek, Vanderburgh Co.; 244 ft. rein.-con. girder bridge over Missinlewa River, Whitley and Wabash Counties; 196 ft. continuous steel beam bridge over Raccoon Creek, Montgomery Co.; 30 ft. bridge over Grapevine Ditch, St. Joseph Co.; 367 ft. steel truss bridge over White River, Marion Co. E. B. Lockridge, c/o owner, engr.

Bids Asked August 7

†D. C., Wash.—Public Roads Administration, Winder Bldg., 17 and F St. N.W., constructing steel struts between abutments of bridge over Boundary Channel at end of Columbia Island; adv. ENR 7/24.

Bids Asked August 8

Minnesota—State Hy. Dpt., St. Paul, Bridge 5947, over Mississippi River, Projs. 05-501-01 and 75-503-01, between Sauk Rapids and St. Cloud, Benton and Stearns Counties; Bridge 5991 over Popple River, S.P. 3109-96, Pine Co.; Bridge 5989, over Mustinka River, S.P. 7807TH 117-191, southwest of Wheaton. J. T. Ellison, c/o owner, ch. engr.

Bids Asked August 12

Fla., Miami—Bd. Comrs. Dade Co., E. B. Leatherman, clerk Circuit Court, H. S. Sneeding, deputy clk., fixed beam bridges, part of Biscayne Causeway over Biscayne Bay, E. Friedman, co. engr.; adv. ENR 7/24.

LOW BIDDERS

Calif., Nicolaus—State Engineer, Div. Water Resources, P. Wks. Bldg., Sacramento, July 8, rein.-con. girder spans as repairs to existing bridge over Feather River, from A. Soda & Son, 5231 Grove St., Oakland. **$139,744.** CD 6/25.

Fla., Miami—Bd. Comrs. Dade Co., Miami, July 8, bascule bridge over Biscayne Bay from Reed Constr. Corp., 1345 20 St., Miami Beach, **$288,000** (unofficial). CD 6/17—ENR 6/18.

Illinois—State Dpt. P. Wks. & Bldgs. Div. Hys., Springfield, July 15, rein.-con. substructure, erecting girder superstructure for Pennsylvania R. R. overhead, Hy. 40, Bond Co., from Parham Constr. Co., East St. Louis, **$69,439***** fabrication, del. steel for I-beam

BRIDGES, etc. (Low Bidders, Cont'd.)

superstructure, Salt Creek bridge, relocation U. S. 66 Logan Co., from Mississippi Valley Structural Steel Co., Decatur, **$44,970*****rein.-con. substructure and girder superstructure, bridge, approaches, Route 4, Macoupin Co., from Sangamo Constr. Co., Springfield, **$247,462.** CD 7/11—ENR 7/17.

Indiana—State Hy. Comn., Indianapolis, July 15, widening bridges Huntington and Wells Counties, from R. H. Ellis, Alexandria, **$32,598,** est. $41,248***bridge Jasper Co. and Marion Co., from R. H. King, Danville, **$31,176** and **$69,151** respectively, est. $35,476 and $87,948 respectively***widening bridge, constructing bridges, grading, Knox Co. from Bergen & Bergen, Franklin, **$97,260,** est. $101,195***bridge, Posey Co., from R. P. Olinger, Huntingburg, **$38,132,** est. $40,078. State Hy. Comn. rejected bids July 15, bridge over Blue River, Washington Co., will readvertise. CD 7/1—ENR 7/10.

Iowa—State Hy. Comn., Ames, July 15, bridges, Groups 2 and 3, Shelby Co., from Duvall & McKinney, Logan, **$43,129;** two 110 ft. continuous I-beam underpass structures, grading, etc., Polk Co., from E. A. Kramme Co., Inc., 402 Teachout Bldg., Des Moines, **$218,997.** CD 7/7—ENR 7/10.

Minnesota—State Hy. Dpt., St. Paul, July 11, Bridge 5891, S.P. 2752-09, Hennepin Co., from Fielding & Shepley, 1258 Bohn Ave., St. Paul. **$85,468.** CD 6/25—ENR 7/3.

Pennsylvania—State Hy. Dpt., Harrisburg, July 18, overhead bridge, paving 2,024 ft. hy. Bucks Co., from Allen Constr. Co., 527 Hamilton St., Allentown, **$75,527.** CD 7/8—ENR 7/10 under Roads.

W. Va., Wheeling—Ohio Co., July 1, new bridge over Wheeling Creek at Chapline St., from Holmes Constr. Co., Wooster, **$216,461;** steel, from Mount Vernon Bridge Co., Mt. Vernon, **$42,401.** Est. $250,000. CD 6/12—ENR 6/19.

CONTRACTS AWARDED

★**Illinois**—State Dpt. P. Wks. & Bldg. Div. Hys., Springfield, fabrication, del. steel for steel truss, plate girder and I-beam superstructure, to American Bridge Co., 208 S. LaSalle St., Chicago. **$708,076.**

Mass., Northbridge—Dpt. P. Wks., H. L. MacDonald, comr., 100 Nashua St., Boston, steel stringer bridge, Beans Crossing, to Carlo Bianchi & Co., Inc., 24 Union Ave., Framingham. **$150,842.** Bids 7/1, awarded 7/11. CD 6/18—ENR 6/26.

Pa., New Castle—Lawrence Co., New Castle, reconstructing Cherry St. bridge, to C. H. Ortman, Meadville, **$32,900.** Est. $35,000. Awarded 7/16.

STREETS AND ROADS

BIDS ASKED

Bids Asked July 28

Connecticut—W. J. Cox, comr State Hy. Dpt., Hartford, rolled bank gravel surfacing 3,372 ft. Flat Rock Rd., Cornwall; 4,682 ft. Peck Hollow Rd., Franklyn; rein.-con. paving 1,167 ft. Water St., Norwalk; rein.-con. paving 6,356 ft. hy. Naugatuck and Waterbury; 1,167 ft., Water St., Norwalk; grading, drainage, 12,586 ft. section Wilbur Cross Pkwy., Hamden and North Haven; fdn. scale pit, 316 ft. bituminous macadam approaches, Enfield; graveling 3,372 ft., Flat Rock Rd., Cornwall; 4,682 ft., Peck Hollow Rd., Franklin. Over $25,000.

N. Y., New York—FREIGHT SHED—President Manhattan Boro, Municipal Bldg., marginal street imprv., E. 30 to E. 49 Sts.; Lehigh Valley R. R. freight shed, between E. 47 and E. 48 Sts.

Bids Asked July 29

Iowa—State Hy. Comn., Ames, gravel surfacing 4.993 mi. County Trunk Rd. D, FSN 731 A(1); 2.556 mi. County Trunk Rd. E, FSN 719 A(1); 11.205 mi. Co. Trunk Rd. E, FSN 624 A(1), foregoing in Sac Co.; 3.063 mi. Co. Trunk Rd. L, FSN 724 A(1), Pocahontas Co.; 3.142 mi. Co. Trunk Rd. M, FSN 619 A(1) N, O'Brien Co.; 8.681 mi. County Trunk Rd. M and C, FSN 607 A(1) N, Carroll Co.; 3.021 mi. County Trunk Rd. L, FSN 732; 1.98 mi. Local road, FSN 453; 6.039 mi. County Trunk Rd. D, FSN 203, foregoing Buena Vista Co.; 6.065 mi. County Trunk Rd. G, FSN 587 A(1), Boone Co.; crushed rock surfacing 6.339 mi. Co. Trunk Rd. V, FSN 276; 5.23 mi. Co. Trunk Rd. L, FM 31, both Iowa Co.; 4.898 mi. Co. Trunk Rd. C, FSN 319; 9.41 mi. various roads FM-37, both Cedar Co.; 84 baffle wall and 1,060 lin. ft. corrugated pipe installation Iowa 22, from Iowa 76 to Muscatine, FN 820A, Muscatine Co. F. R. White, Ames, engr.

Iowa—State Hy. Comn., Ames, grading, 4.993 mi. County Trunk Rd. D, FSN 731 A(1), 2.556 mi. County Trunk Road E, FSN 719 A(1), 11.205 mi. County Trunk Road E, FSN 624 A(1), all foregoing in Sac Co.; 2.494 mi. County Trunk Road R, FSN 785; 3.911 mi. County Trunk Road C, FSN 784; 1.369 mi. County Trunk Road D, FSN 783; 2.5 mi. County Trunk Road O, FSN 782; 2.91 mi. County Trunk Road V, FSN-781; 3.04 mi. County Trunk Road Q, FSN 780, all foregoing Pottawattamie Co.; 3.063 mi. County Trunk Road L, FSN 724 A(1), Pocahontas Co.; 3.142 mi. County Trunk Road M, FSN 619 A(1) N; 2.093 mi. County Trunk Road X, FSN 249 A(1), both O'Brien Co.; 5.702 mi. Iowa 9, FA 835 C(1); 0.384 mi. Iowa 9, FA 835 B(2); 0.163 mi. Iowa 9, FA 835 A(2); 0.294 mi. Iowa 9, FA 110 F(3), all foregoing in Lyon Co.; 2.809 mi. County Trunk Rd. RR, FAS 549 A (1), Franklin Co.; 5.028 mi. Iowa 3, FA 122 (5), Decatur Co.; 3.548 mi. FM 19, Clinton Co.; 8.681 mi. County Trunk Rds. C and M,FSN 607 A(1) N, Carroll Co.; 3.021 mi. County Trunk Rd. L, FSN 732, 1.98 mi. local road, FSN 453; 6.039 mi. County Trunk Rd. D, FSN 203, all foregoing Buena Vista Co.; 6.065 mi. County Trunk Road G, FSN 587 A(1), Boone Co. F. R. White, Ames, engr.

Maryland—State Roads Comn., Baltimore, gravel surfacing 1.6 mi. Beauxue-Valley Lee Rd., Contr. SM 172-1-550, St. Marys Co., grading, drainage, gravel surfacing, bituminous stabilization 5.2 mi. Contr. P 315-10511, Prince George Co.; concrete shoulders 3.71 mi. Viers Mill Rd., Contr. M 363-1-311, Montgomery Co.

★**North Carolina**—State Hy. & P. Wks. Comn., Raleigh, fine grading, rein.-con. and concrete paving, rein.-con. pavement on piles 2.75 mi. P.1026, Beaufort Co. $50,000-$75,000; 7.75 mi. grading, concrete paving, S.T.B.C., structures 0.58 mi. P.4866, Wake Co., $25,000-$50,000; grading, S.T.B.C, B.S.T. and structures 3.86 mi. P.350, Granville Co., $50,000-$75,000; 7.75 mi. P.3261, Columbus and Bladen Counties, $100,000-$125,000; grading, sand asphalt surfacing, 2.94 mi. P.3646, Onslow Co., fine grading, concrete paving 15.79 mi. P.4077, Chatham Co., $400,000-$500,000; grading, concrete paving 1.08 mi. P.4105, Durham Co., $50,000-$75,000; 6.58 mi. P.6771 Scotland and Robeson Counties, $126,000-$150,000; fine grading, concrete paving 9.78 mi. P.4601, Orange and Durham Counties, $250,000-$300,000; imprv. 8.37 mi. P.5226, Davidson Co., $50,000-$75,000; grading, concrete widening 2.47 mi. P.6464, Lincoln Co., $50,000-$75,000; grading, T.B.M., B.S.T., 1.11 mi. P.9589, Jackson Co., $25,000-$50,000. W. V. Baise, Raleigh, engr.

Ohio—State Hy. Dpt. Columbus, tar concrete resurfacing 0.721 mi. Sect. Flushing SH103, Belmont Co. $5,460; bituminous premixed surface course 4.785 mi. Sect. A, SH 183, Butler Co. $37,950; grading, drainage structures, paving, asphaltic concrete resurfacing, steel beam bridge with concrete deck and substructure over Aurand Run 2.877 mi. Sects. C-1 and C-2 SH 133, Hancock Co. $80,850; widening, premixed bituminous resurfacing 2.982 mi. Sect. L SH 26, U.S. 22, Jefferson Co.; grading, widening, asphaltic concrete resurfacing 1.041 mi. Sects. F and E, West Alexandria SH 28, U.S. 35, Preble Co. $16,200; bituminous treatment 4.106 mi. Sect. SH 441, 125, 365, and 119, Adams, Brown, Ross and Scioto Counties, $19,929; 48.71 mi. SH 79, 461, 46, 799, 356, 546, 652, Fairfield and Licking Counties $39,092; 16.86 mi. SH 301, 302, 697, 682, Fulton and Lucas Counties $23,594; 67.56 mi. Sects. 431, 503, 133, 138, 22, 222, 729, 268 and 233, Hancock, Putnam and Wyandot Counties $40,148; 43.68 mi. Sects. 346, 411, 479, 854, 351, 355, 356, 470 and 716, Licking, Muskingum and Perry Counties $46,673; 49.2 mi. Sects. 529, 273, 283, 899, 898, 880, Ottawa and Wood Counties $31,056; 20.39 mi. Sects. 275, 984 and 529, Sandusky and Wood Counties $15,520; 39.03 mi. Sects. 515, 882, 267, 271, 848, 915, 199, 269, 219, Seneca Co. $33,448.

South Carolina—State Hy. Dpt., Columbia, concrete paving 3.611 mi. Rt. 291, Greenville Co.; grading 2.61 mi. Rt. 614, Charleston Co.; 0.569 mi. Rt. 9, Spartansburg Co.; earth type surfacing 2.304 mi. U.S. Rd. 15, approaches to Francis Marion Bridge over Santee River, Clarendon and Orangeburg Counties; constructing 3,750 ft. portion of rein.-con. bridge over Santee River and 810 ft. rein.-con. bridge over Santee River swamp, U.S. Rt. 15, Clarendon Co.; constructing 19 rein.-con. piers and 1 steel H pile and bent, being substructure for portion of Bridge 1 over main channel of Santee River, near Parler, Clarendon and Orangeburg Counties. C. R. McMillan, Columbia, state hy. engr.

Wisconsin—State Hy. Comn., Madison, constructing 3.15 mi. McCarthy's Crossing-Wrightstown Rd., S.P. 394, S.T. Hy. 96, Contr. 1, Brown and Outagamie Counties.

Bids Asked July 30

Wis., Kenosha—Kenosha Co., 1 mi. soil cement surfacing, County Trunk Hy. H between Hy. HH and 43. H. H. Herzog, Kenosha, engr.

Bids Asked July 31

Florida—State Road Dpt., Tallahassee, T. A. Johnson, chn., J. H. Dowling, engr., rein.-con. paving, widening 438 ft. steel, concrete bridge over Chipola River, constructing 90 ft. steel, concrete bridge over Blue Springs Mill Pond, 3.725 mi. State Rd. 1, FAP SN-FA 3-D(1), Oper. No. 3067, Jackson Co.; sand-clay base surface treating 4.033 mi. S. P. 5468 (3), Rd. 166, Holmes Co.; reshaping sand clay base, bituminous surface treating 7.145 mi. Rd. 62, S. P. 5122 (3) and 4 mi. Rd., 265, S. P. 5797 (2), Santa Rosa Co.

Florida—State Road Dpt., Tallahassee, J. H. Dowling, state hy. engr., 8 in. Miami rock base, surface treated paving 5.56 mi. Rd. 26, S.P. 5101(3) Broward Co.; lime rock base and surface treating 5.935 mi. Rd. 8, S.P. 5209(2) Polk Co.

Bids Asked August 1

Arizona—State Hy. Comm., Phoenix, grading, draining, aggregate base course 9½ mi. Benson-Steins Pass Hy. Cochise Co., $200,000; 2.8 mi. Ashfork-Flagstaff Hy. W. R. Hutchins, state hy. engr.

Kansas—State Hy. Dpt. at office Co. Clk., Sharon Springs, single asphalt surface treatment 6.958 mi. K3068, Parts 1 and 2, Decatur Co.; 13.016 mi. K3067, Parts 1 and 2, Sheridan Co.; 11.491 mi. K3066, Thomas Co.; 16.89 mi. K3070 Wallace Co.; 14.102 mi. K3071, Sherman Co.

Minnesota—State Hy. Dpt., St. Paul, bituminous material, mineral aggregate, gravel surfacing 4.3 mi. P. 53-501-04 (US Hy. 59) FAP 602 A(2), Robles Co.; 3.2 mi. P. 32-501-07 FAS 47 B(3), Jackson Co. J. T. Ellison, c/o owner, ch. engr.

Minnesota—State Hy. Dpt., St. Paul, stabilized gravel surfacing, grading 10.8 mi. S.P. 4304-01 (Trunk Hy. 15-151), FAS 131 A(1); grading, sand gravel fill, 8.5 mi. S.P. 3310-01 (TH 70-133) and S.P. 5810-01 (TH 70-133); grading, binder soil surfacing, sodding 10.6 mi. S.P. 8210-05 (TH 95-95) and S.P. 1305-01 and 02 (TH 95-05), FAP 474 N(1) and 474 C(2); bituminous material and mineral aggregate, surfacing, gravel surfacing 7.7 mi. S.P. 5005-19 (TH 56-81) FAS 496 D(4); grading, binder soil and gravel surfacing, gravel backfill, 7.5 mi. S.P. 4402-03 (TH 31-168); 2 box culverts, 164 cu. yd. concrete S.P. 4304-03 (TH 15-151), FAS 131 A(1); 7 box culverts, 386 cu. yd. concrete S.P. 8210-10 (TH 95-95) and S.P. 1305-05 (TH 95-05) FAP 474 B(1) and 474 C(2); 1 box culvert, 33 cu. yd. concrete S.P. 0709-07 (TH 60-60); sidewalks, bituminous material, mineral aggregate, hot asphaltic mixture surfacing 0.5 mi. in Anoka, S.P. 0203-06 (TH 10-62) and S.P. 0202-12 (TH 10-3) S.N.-FAP 16 (4). J. T. Ellison, c/o owner, ch. engr.

Pennsylvania—State Hy. Dpt., I. L. Hughes, secy., Harrisburg, rein.-con. paving 2,221 ft. hy. Legislative Routes 115, 62159, Traffic Route 18, Canton Twp., city of Washington; bituminous on native stone or crushed aggregate surfacing 1,977 ft. hy., grading, rein.-con. structure, over Ten Mile Creek, Legislative Routes 109, Bridge 5, 62082, Traffic Routes 18, 221, Morris Twp., both Washington Co.; rein.-con. paving, 1 masonry structure, exten. concrete bridge, constructing rein.-con. bridge, bituminous on native stone or crushed aggregate surfacing, grading, 18,054 ft. Legislative Route 2, Sect. 2-C, Traffic Route 11, Point Twp., Northumberland Boro, Northumberland Co.; bituminous on native stone or crushed aggregate surfacing rein.-con. bridge 473 ft. Legislative Route 44035, Sec. 1, Union Twp., bridge over Kishacoquillas Creek, Mifflin Co.; bituminous on concrete surfacing 2,791 ft. Legislative Route 53, Sect. 10, Traffic Route 53, Cresson Twp., Cambria Co.; bituminous on native stone or crushed aggregate surfacing 225 ft. Legislative Route 2902, Sect. 2, Dublin Twp., Fulton Co.; bituminous on native stone or crushed aggregate surfacing, rein.-con. arch, widening 8,046 ft. Legislative Routes 397, Sect. 1, Allegheny Co.

Bids Asked August 5

†**California**—Public Roads Administration, Federal Office Bldg., San Francisco, bituminous surface treating 29.557 mi. Sects. A and B, Route 11, and Sect. B (portion), Route 12, Lava Beds and Howard Gulch National Forest Hys., Modoc National Forest, Modoc Co.

Indiana—State Hy. Comn., J. D. Adams, chn., Indianapolis, widening, bituminous concrete or rock asphalt resurfacing 0.583 mi. Decatur Co.; rein.-con. paving 1.918 mi. State Rd. 31, Miami Co.; 3.323 mi. State Rd. 534, Marion Co.; 4.875 mi. State Rd. 2, St. Joseph Co.; 2.273 mi. State Rd. 52, Tippecanoe Co.; 5.946 mi. State Rd. 13, Kosciusko Co.; 0.463 mi. State Rd. 41, Gibson Co.; 0.649 mi. State Rd. 31, Clark Co.; widening, bituminous concrete or rock asphalt resurfacing 1.328 mi. State Rd. 56, Dearborn Co.; rein.-con. paving, shoulder widening 8.907 mi. State Rd. 46, Vigo and Clay Counties; compacted aggregate paving 1.16 mi. State Rd. 58, Knox Co.; surface treated waterbound macadam, bituminous retread surfacing 0.768 mi. Crawford Co.; reconstructing shoulders 4.435 mi. State Rd. 3, 1.818 mi. State Rd. 3, 4.719 mi. State Rd. 3, Clark Co. E. B. Lockridge, c/o owner, ch. engr.

Bids Asked August 6

California—C. H. Purcell, engr. State Hy. Dpt., Sacramento, crusher run base surfacing and applying sealcoat 2.3 mi. Yuba Co.; stabilizing slide area, 0.2 mi. Fredonyer Summit, Lassen Co.

Kansas—State Hy. Dpt. at office Co. Clk., Clay Center, single asphalt surface treatment 8.116 mi. K2073 Parts 1 and 2, Clay and Washington Counties; 5.393 mi. K2075, Jewell Co.; 3.98 mi. K2176, Washington Co.; 3.828 mi. K2077, Parts 1 and 2, Dickinson Co.; 2.761 mi. K2080 Geary Co.

New York—A. W. Brandt, supt. P. Wks., Albany, reconstructing 7.39 mi. hy. Allegany Co., 5.58 mi. Washington Co.; bridge, concrete approaches 0.08 mi. Rensselaer Co.; 31¾ ft. concrete arch and concrete approaches 0.25 mi. Seneca Co.; concrete and miscellaneous work, 1.1 mi. Suffolk Co.; 60 ft. girder concrete paving 0.13 mi. Nassau Co.; adv. ENR 7/24.

Bids Asked August 7

†**Mississippi** — Public Roads Administration, 219 Old Post Office Bldg., Vicksburg, grading, draining structures, and other work, 13.33 mi.

STREETS, etc. (Bids Asked, Cont'd.)

Project 3M1, Natchez Trace Parkway, Attala and Leake Counties; adv. ENR 7/24.

†**North Carolina**—Public Roads Administration, Winder Bldg., 17 and F Sts. N. W., Wash., D. C., grading, draining, stone base course 1.83 mi. Project 2F3, Blue Ridge Parkway, Watauga Co.; adv. ENR 7/24.

Bids Asked August 8

Minnesota—State Hy. Dpt., St. Paul, grading, stabilized gravel surfacing 11.2 mi. Trunk Hy. 13-13, S.P. 4001-01; binder soil, gravel, bituminous material, mineral aggregate surfacing 12 mi. Trunk Hy. 7-119, S.P. 1003-07; 1.8 mi. TH 74-74, S.P. 2314-07; gravel surfacing, bituminous material surfacing 6.6 mi. TH 29-29, S.P. 6106-02; 8.6 mi. TH 44-44, S.P. 2808-11; grading 1.1 mi. TH 46165, S.P. 3109-05; 6 box culverts TH 13-13, S.P. 4001-05; bituminous mixture surfacing 2.7 mi. TH 36-118, S.P. 6212-26; bituminous materials, bituminous wearing course, mineral aggregate surfacing 8.8 mi. TH 11, D 5, S.P. 3503; grading 5.8 mi. State Rd. 1, Crow Wing Co., P. 18-501-04; grading 5.8 mi. P. 77-502-01, Todd Co.; gravel surfacing, grading, bituminous material, mineral aggregate surfacing 2.6 mi. State Aid Rd., P. 66-503-01, Rice Co. J. T. Ellison, ch. engr.

Bids Asked August 12

†**W. Va., Huntington**—Veterans Administration, Arlington Bldg., Wash., D. C., resurfacing roads.

Bids Asked August 13

Louisiana—State Dpt. Hys., Baton Rouge, W. Prescott Foster, dir., bituminous surface treating 8.605 mi. Valentine-Cut-Off Hy., Route 78, S.P. 64-05-03, Lafourche Parish.

Bids Asked August 14

†**Virginia**—Public Roads Administration, Winder Bldg., 17 and F Sts. N.W., Wash., D. C., grading, draining, crusher run base course, etc. 2.84 mi. Project 1G1, Blue Ridge Parkway, Amherst and Rockbridge Counties; adv. ENR 7/24.

Bids Asked

Maryland—State Hy. Dpt., Baltimore, rejected bids June 24, imprv. 7.39 mi. Contr. A 329-611, Alleghany Co. CD 6/27—ENR 7/3, under LB.

LOW BIDDERS

†**Alabama**—Public Roads Administration, 305 Medical Arts Bldg., Florence, July 10, grading, draining, gravel base course with surface application Natchez Trace Parkway, Project 2A1, Lauderdale Co., from T. M. Strider & Co., Cotton States Bldg., Nashville, Tenn., **$328,299.** CD 5/11—ENR 6/19.

California—C. H. Purcell, engr. State Hy. Dpt., Sacramento, July 9, imprv. 4.1 mi. Fresno and Madera Counties, from Fredrickson Bros., 1259-65 St., Emeryville, **$99,692**; 4.4 mi. hy. Madera and Merced Counties, from M. J. B. Constr. Co., 444 E. Market St., Stockton, and F. Kaus, 2726 E. Main St., Stockton, joint bid **$154,926.** CD 6/23—ENR 6/26.

★**Connecticut** — State Hy. Dpt., July 14, imprv. 25.445 ft., Morris and Litchfield, from Oneglia & Gervasini, Inc., 1 Casson Ave., Torrington, **$241,438*****16,420 ft., Meriden and Wallingford, from Arute Brothers, Inc., 560 Main St., New Britain, **$243,246*****17,000 ft., Washington, from Joseph Battaglia & Sons, 1125 Corbin Ave., New Britain, **$59,339***** viaduct, grading, etc. Hartford, from Mariani Constr. Co., 222 Forbes Ave., New Haven, **$269,161.** CD 7/3—ENR 7/10.

Florida—State Road Dpt., Tallahassee, June 3, imprv. S.P. 695 (2), 5407 (2), 5599 (2) and 5007 (2), Rds. 2, 5, 55 and 31, Lake Citrus and Marion Counties, from W. L. Cobb. Constr. Co., 1st Ave. and 22 St., Tampa, **$81,468**; S.P. 5594 (2), 5593 (2) and 5596 (2), Rd. 5, Charlotte and Lee Counties, from Hubbard Constr. Co., Orlando, **$45,587.**

Florida—State Road Dpt., Tallahassee, June 10, imprv. F.A. Sec. Proj. AW-FAS 68-A(1), Re. 500, Leon Co. and 0.54 mi. Citrus Co., from W. L. Cobb Constr. Co., 1st Ave. and 22 St., Tampa, **$55,455** and **$97,499** respectively. CD 6/4.

★**Illinois**—State Dpt. P. Wks. & Bldgs., Div. Hys., Springfield, July 15, imprv. 1.94 mi. hy. Bond Co., from Blackwell Corp., East St. Louis, **$87,991*****3.16 mi. same hy. from Edwardsville Constr. Co., Edwardsville, **$201,-235*****8.48 mi. Brown Co., from Fransen Constr. Co., 7537 S. Racine St., Chicago, **$40,270** *** 2.81 mi. Cook Co., from H. G. Goelitz Co., Oak Park, **$176,691*****1.94 mi. Greene Co., from H. J. Eppel, Pontiac, **$36,823*****7.47 mi. Greene and Morgan Counties, from Waukegan Constr. Co., Springfield, **$87,786*****3.39 mi. Perry Co. from Lake Bros., Effingham, **$37,576*****approaches 0.78 mi. bridge, Bond Co., from Tritt Bros., Belleville, **$114,156.** CD 7/11—ENR 7/17.

Indiana—State Hy. Comn., Indianapolis, July 15, imprv. 1.172 mi. Clark Co., from Berns Constr. Co., 129 E. Market St., Indianapolis, **$87,913**, est. $88,465***0.821 mi. Greene Co., from Hart & Hart, Columbus, **$114,640***** 0.497 mi. Steuben Co., from Moellering Constr. Co., 241 Murray St., Fort Wayne, **$43,957**, est. $44,435. State Hy. Comn., Indianapolis, rejected bids 7/15, imprv. 0.583 mi. Decatur Co., will readvertise. CD 6/30—ENR 7/3.

Iowa—State Hy. Comn., Ames, July 15, from Roth Constr. Co., Indianola, imprv. 4.685 mi. Wapello, Davis and Van Buren Counties, **$44,489*****from F. Eblen, Cumberland, 4.904 mi. Shelby Co., **$33,589*****from J. W. Scothorn, Cherokee, 4.802 mi. Pocahontas Co., **$29,929*****from Booth & Olson, Inc., 622 Ins. Exch. Bldg., Sioux City, 6.849 mi. Tremont Co., **$29,127**; 3.853 mi. Dickinson Co., **$102,328**; 4.802 mi. Pocahontas Co., **$130,417*****from E. A. Kramme Co., Inc., 402 Teachout Bldg., Des Moines, 0.224 mi. Polk Co., **$29,682.** CD 7/7—ENR 7/10.

★**Kentucky**—State Hy. Dpt., Frankfort, July 18, imprv. 9.608 mi. Henry Co., from H. K. Williams, 1326 S. 7 St., Louisville, **$32,964***** 8.204 mi. Henry and Oldham Counties from White Consolidated, Inc., 1735 W. Fullerton St., Chicago, Ill., and Breslin Constr. Co., Midwest Bldg., Louisville, **$32,129*****3.19 mi. Hopkins Co., from H. F. Mathis, Bardstown, **$38,821*****1.093 mi. Jefferson Co., from G. M. Eady Co., 340 Byrne St., Louisville, **$29,588** ***11.856 mi. Laurel Co., from Kentucky Virginia Stone Co., Middlesboro, **$139,361*****3.055 mi. Livingstone Co., from Carey Constr. Co., Lexington, **$34,134*****7.034 mi. Magoffin Co., from Robert M. Robinson, Owensboro, and J. B. Towles, Lexington, **$80,849*****7.667 mi. Muhlenberg Co. and 10.901 mi. Muhlenberg Co., from Southern Ohio Quarries Co., 150 E. Broad St., Columbus, O., **$26,216** and **$36,-838** respectively. CD 7/1.

Louisiana—State Dpt. Hys., Baton Rouge, July 16, imprv. 7 mi. S.P. 913-04-76, and 11.4 mi. S.P. 913-04-61, Caddo Parish, from Le Blanc Bros. Baton Rouge, **$86,676** and **$96,973** respectively. CD 6/24—ENR 6/26.

Maryland—State Roads Comn., Baltimore, July 15, imprv. 1.738 mi. Contr. Q-154-1-250, Queen Anne Co., from Phillips Bros., Salisbury, **$97,912**; 4.342 mi. Contr. C-84-1-552, Calvert Co., from Frank Carozza & Son, Charles and 25 Sts., Baltimore, **$289,574.** CD 7/9.

★**Minnesota**—State Hy. Dpt., St. Paul, July 11, imprv. 10.6 mi. S.P. 0608 13 and 14, from Nelson, Mullen & Webster, 355 Gateway Bldg., Minneapolis, **$267,598*****16.4 mi. S.P. 3204-03-04-05-06, from Hallett Constr. Co., Crosby, **$469,741*****11.4 mi. S.P. 8408-01 and 05, from Okes Constr. Co., E-1501 1st Natl. Bank Bldg., St. Paul, **$332,158*****5.2 mi. S.P. 7301-01 from DeRuyter Bros., Willmar, **$44,448*****9.5 mi. S.P. 5208-04 and 7.1 mi. Nobles Co., from Uland Bros., Austin, **$85,106** and **$65,700** respectively***7.5 mi. S.P. 7504-01 and 4.6 mi. S.P. 7301-09, from Duninck Bros. & Gilchrist, Olivia, **$41,257** and **$47,788** respectively***3 mi. S.P. 2316-05, from Roverud Bros., Spring Grove, **$25,989***** 1.1 mi. Cottonwood Co., from D. F. McElroy & Co., Mankato, **$29,218*****2.7 mi. St. Louis Co., from Rhude & Fryberger, 525 E. 11 St., Duluth, **$37,506.** CD 6/25—ENR 7/3.

N. J., Trenton—City Comn., July 17, paving W. State and Chambers Sts., from Union Paving Co., Front and Stiles Sts., Phila., Pa., **$49,414** and **$27,766** respectively. CD 7/8—ENR 7/10.

★**New York**—State Div. Hys., A. W. Brandt, supt. P. Wks., Albany, July 16, imprv. 7.03 mi. Oswego Co. from Madison County Constr. Co., Inc., Madison, **$457,745*****2.67 mi. Oneida Co., from Davis & Stearns, Inc., Whitesboro, **$306,279*****2.97 mi. Delaware Co., from Pallette Cons. Corp., Amsterdam, **$201,-886*****2.13 mi. Jefferson Co., from Belmar Contg. Co., Proctor Bldg., Troy, **$106,626***** 0.71 mi. Chautauqua Co., from P. J. Knickenberg, 619 McKinley Pkwy., Buffalo, **$58,704** ***0.42 mi. Essex Co., from Collins Bros., Mechanicville, **$52,002*****painting Grand Island Bridges over Niagara River, from Republic Structural Painting Corp., 185 Madison Ave., New York, **$36,894.** CD 6/23—ENR 6/26.

N. Y., Brooklyn—Triborough Bridge Auth., Administration Bldg., Randall's Island, New York, July 17, elevated parkway, paving Hamilton Ave., Contr. B-25, from Mill Basin Asphalt Corp., E. 54 St. and Avenue U, **$121,420.** CD 7/14—ENR 7/10.

★†**N. Y., New York**—Comr. Prks, at office Dpt. Parks, Arsenal Bldg., Central Park, 5 Ave. and 64 St., July 18, imprv. Francis Lewis Blvd., grade séparations, Grand Central Parkway, etc. Contr. F. L. B. 41-1, Queens Boro, from Mill Basin Asphalt Corp., E. 54 St. and Avenue U, Brooklyn, **$740,276.** CD 7/15.

†**North Carolina**—Public Roads Administration, Winder Bldg., 17 and F Sts. N. W., Wash., D. C., July 10, crusher run base course, Blue Ridge Parkway, Project 2Z1, Swain and Jackson Counties, from Asheville Contg. Co., Medical Bldg., Asheville, **$324,326.** CD 6/17—ENR 6/19.

O., Cleveland—National Advisory Com. for Aeronautics, Langley Field, Hampton, Va., July 2, roads, airport grounds, from Allied Corp., Keith Bldg., **$100,000.** CD 6/30.

★**Pennsylvania**—State Hy. Dpt., Harrisburg, July 18, imprv. 31.542 ft. Berks Co., from H. R. Miller Co., Box 1335, Lancaster, **$455,-603*****20,222 ft. Erie Co., from Allegheny Asphalt & Paving Co., 411 Blvd. of the Allies, Pittsburgh, **$44,825*****9,750 ft. Mercer Co., from New Castle Duntile Co., 1409 Moravia St., New Castle, **$87,758*****20,255 ft. Erie Co., from Baldwin Bros. Paving Co., 6520 Union Commerce Bldg., Cleveland, O., **$49,139*****6,588 ft. Washington Co., from Tri-State Eng. Co., Washington, **$68,088.** CD 7/8—ENR 7/10.

★**Pennsylvania**—State Hy. Dpt., L. L. Hughes, secy., Harrisburg, July 18, [illegible] 8,915 ft. grading railroad bed, [illegible] phin Co., from Kaufman Co[illegible] Race St., Phila., **$688,313.** CD [illegible]—ENR 7/10

R. I., Cranston—Bd. Contr. & Purchasing City Hall, July 18, penetration [illegible]sphalt pav[illegible] ing 4,000 ft. Laurel Hill Ave[illegible] Ricci & Ricci Excavating C[illegible] Mass., **$62,011**; sheet asphalt [illegible] ft. Rolfe St., 40 ft., from [illegible] Constr. Co., 1098 Pontiac Av[illegible] **$35,852.** CD 7/7—ENR 7/10.

★**Wisconsin**—State Hy. Co[illegible] Madison, July 17, imprv. 4.912 mi. [illegible]waukee Co. from Milwaukee General Constr. Co., 607 N. Mitchell St., Milwaukee, **$389,**[illegible]***4.687 mi. Wood Co., from Universal Eng[illegible]o., Medford **$176,617*****9.585 mi. Grant Co., from Kl[illegible] Constr. Co., 6300 N. Berkeley Blvd., Mi[illegible] waukee, **$210,978*****1.941 mi. Sauk Co., from P. C. Raemisch & Son, Waunakee, **$110,111***** 5.512 mi. Dane and Jefferson Counties, from A. B. Lynch Co., 2221 E. Newton Ave., Milwaukee, **$261,675*****5.045 mi. St. Croix Co., from Henry A. Raemisch Co., Dane, **$41,389** ***15.481 mi. Washburn Co., from W. J. Kimmes, Superior, **$323,272.** CD 7/3—ENR 7/10.

CONTRACTS AWARDED

†**Ariz., Phoenix**—U. S. Eng., Los Angeles, Calif., street imprvs., military airport, to Lee Moor Contg. Co., Bassett Tower Bldg., El Paso, Tex., **$89,986.**

Calif., Oakland—Imprv. Broadway Terrace and Allman St., to Ransome Co., 4030 Holis St., **$27,347.** Bids 7/15. CD 6/7.

Calif., Oakland—Alameda Co., constructing Alquire Rd., to Heafey-Moore Constr. Co., 344 High St., Oakland, and Fredrickson & Watson, 873-81 Ave., joint bid $54,965. Est. $50,000 or more. Bid 7/10. CD 6/20.

†**Calif., Sacramento** — U. S. Eng., Federal Bldg., Sacramento, street extension, McClellan Field, to A. Teichert & Son, Inc., 1846 37 St., **$39,360.**

Conn., Bristol—D. J. Donovan, supt. P. Wks., concrete sidewalks, **WPA.** $99,000.

†**Ind., Fort Wayne**—U. S. Eng., 605 Federal Bldg., Detroit, Mich., bituminous seal coat and rein.-con. paving, Baer Field, to Cook Contg. Co., Penobscot Bldg., Detroit, Mich. **$52,508.**

Kansas—State Hy. Dpt., at office Co. Clk., Dighton, imprv. 8.078 mi. Ness Co., to L. F. Harper, Great Bend. **$25,434.** Bids 6/24, awarded 7/3. CD 6/11.

Kan., McPherson—Surfacing 13 blocks street paving, to San Ore Constr. Co., McPherson, **$41,467.** Bids 6/25.

Maine—State Hy. Comn., L. D. Barrows, chf. engr., Augusta, gravel surfacing, 1.42 mi., F. A. P. SN 385 A(1), Skowhegan, to Ford & Smiley, Madison Ave., Skowhegan, **$109,228.** Bids 7/2.

Massachusetts—Dpt. P. Wks., H. L. MacDonald, comr., 100 Nashua St., Boston, imprv. hy. and reconstructing steel, concrete bridge, Richmond, to Lindholm Constr. Co., Inc., 1277 East St., Pittsfield, **$119,096.** Bids 6/3, awarded 7/11. CD 5/20—ENR 5/22.

†**Massachusetts**—Con. Q.M., 1st Army Corps, Boston, roads drainage and walls for Fort Andrews, Fort Standish and Fort Duvall in Boston Harbor, to National Contractors Co., 116 Bway., Boston. **$118,577.**

†**Mich., Detroit**—Con. Q.M., concrete paving, curbing, storm sewer, to Sachs & Lodewyk, 1113 Lafayette Bldg. **$61,914.**

Minn., Blue Earth—Faribault Co., G. G. Busche, aud., Blue Earth, grading roads to Sorenson & Nelson, Albert Lea, **$25,000.**

†**Miss., Jackson**—U. S. Eng., P. O. Box 60, Vicksburg, asphalt paving 3 mi., concrete paving 2 mi., Jackson Air Base, to Cobb Constr. Co., Meridian. **$65,000.** Awarded 7/15.

N. J., Mt. Holly—Burlington Co., Courthouse, grading, gravel surfacing, ditches, on approach roads, **WPA.** $63,900, W. D. Cougle, 1102 S. Broad St., Trenton, WPA and owner's engr.

New Mexico—B. G. Dwyre, engr. State Hy. Dpt., Santa Fe, imprv. 3.996 mi. and 4.072 mi. Catron Co., to Brown Bros., Albuquerque, **$72,337*****SAP 109 A(3), Quay Co., to D. D. Skousen, Albuquerque, **$53,465** est. $50,000*** 27.8 mi. Colfax Co. and 38.9 mi. Mora Co., to Henry Thygesen & Co., Albuquerque, **$39,614** and **$77,282** respectively est. $30,000 and $76,000 respectively***FAGM 208 D(1), Colfax Co., to Frank M. Kenney, 56 Steele St., Denver, Colo., **$149,666.** Grand total $392,364. Bids 7/17.

N. Y., Little Valley—Cattaraugus Co. Hy. Dpt., Little Valley, bituminous materials repaving county hy. from Chautauqua Co. line to Onoville, own forces. **$25,000.** W. Bowen, co. supt.

N. Y., Syracuse—Dpt. P. Wks., City Hall, sidewalks, curbing streets, **WPA.** Over $60,000. N. Pitts, city engr.

★**N. Y., Yonkers**—Dpt. P. Wks., City Hall, street resurfacing. **WPA.** $525,000. B. P. Henderson, city engr.

†**N. C., Jacksonville**—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., 7 mi. road with reservation on Marine Barracks, near here. **WPA.** **$138,000.**

STREETS, etc. (Contracts Awarded, Cont'd.)

Ohio—State Hy. Dpt., Columbus, imprv. 33.95 mi. Athens, Gallia, Meigs, and Vinton Counties, to L. P. Cavett Co., 500 Shepherd Ave., Lockland, **$51,770**, est. $55,314***45.17 mi. Athens, Hocking and Vinton Counties, to Southern Ohio Quarries Co., 350 E. Brod St., Columbus, **$69,163**, est. $72,982***37.2 mi. Carroll, Harrison and Jefferson Counties, to Edgar Spring, Inc., W. Third St., Dover, **$58,966**, est. $58,970***66.07 mi. Fayette and Madison Counties, to T. D. VanCamp & Sons, 1385 Norton Rd., Columbus, **$37,745**, est. $38,454***2.225 mi. Portage Co. **$38,417**, est. $38,600. Grand total $256,060. Bids 7/15. Rejected bids July 15, imprv. 37.98 mi. Delaware and Franklin Counties **$17,901**. Received no bids July 15, imprv. 0.027 mi. Cuyahoga Co.; 0.198 mi. Ashtabula Co.; 26.52 mi. Cuyanoga and Lake Counties; 70.41 mi. Belmont, Harrison, Jefferson Counties. CD 7/1—ENR 7/10.

O., Circleville—Pickaway Co., bituminous surface treating 37.51 mi. roads, to T. D. Van Camp & Sons Co., 1385 Norton Rd., Columbus, **$38,415**. Est. $45,000. H. J. McGrady, Circleville, co. engr. Bids 7/3.

O., Marion—Marion Co., surface treating 56 mi. roads, to N. S. Constr. Co., 115 E. Johnson St., Upper Sandusky, **$25,000**. W. W. Johnson, Marion, co. engr. Bids 6/17.

O., Marysville—Union Co., imprv. 43.8 mi. 12 roads, **WPA**. **$204,000**. C. F. Skidmore, Marysville, co. engr.

O., Springfield—Clark Co., resurfacing 311,680 sq. yd. roads, to A. & B. Street Oil Tar Co., Warder St., **$28,629**. W. A. Burg, Springfield, co. engr. Bids 6/16.

†Pa., Middletown—U. S. Eng., 322 Post Office Bldg., Baltimore, Md., roads and railroads, Army Air Depot, to Pennsylvania Supply Co., 10 and Mulberry Sts., Harrisburg, **$108,814**. Bids 6/20, awarded 7/14. CD 6/10—ENR 6/12.

Pa., Pittston Twp. (Pittston P. O.)—Supervs. Pittston Twp., Pittston, stone base, concrete curbs, gutters, sidewalks, bituminous surfacing, **WPA**, under supervision Town Hy. Dpt. **$102,769**.

Rhode Island—State Purchasing Agent, State House, Providence, imprv. 0.68 mi., Eddy, Dyer, and Dorrance Sts., Providence, SN F. A. P. 40D(1), 44 ft., to M. A. Gammino Constr. Co., 728 Valley St., Providence, **$135,053**. Bids 6/18. CD 6/6—ENR 6/12.

†Tenn., Tullahoma—War Dpt., 20 St. and Constitution Ave. N. W., Wash., D. C., constructing, surfacing roads, etc., Camp Forrest, to Ralph Rodgers Co., Shelbyville, **$196,350**. Bids 6/24.

†Tex., Fort Worth—U. S. Eng., Citizens Bank Bldg., Denison, grading, Bomber Assembly Plant, to L. J. Miles, 1809 Clover Lane. Est. **$475,000**. (**Correction**—contractor.). CD 7/10—ENR 7/17, under CA.

Tex., Goldwaithe—Mills Co., c/o R. J. Gerald, judge, Goldwaithe, imprv. Hy. 234, **WPA**. **$56,300**. L. Ehlinger, Brownwood, engr.

Tex., Navasota—R. E. Thompson, mayor, grading, walks, curbs, gutters, bridges, etc., **WPA**. **$111,000**. R. J. Brule, city engr.

Tex., Post—Garza Co., c/o J. L. Bowen, judge, Post, imprv. roads, **WPA**. **$50,000**. J. W. Stotts, Court House, engr.

★**Tex., San Antonio**—Bexar Co., c/o judge, hard paving, bridge work, grading, widening, base course surfacing, **WPA**. **$1,578,599**. F. H. Reichert, c/o Court House, co. engr.

Tex., Sulphur Springs—Hopkins Co., c/o W. B. Kitts, judge, Sulphur Springs, imprv. Hy. 19, **WPA**. **$274,000**. J. E. Pirie, Sr., Paris, engr.

†Utah, Ogden—War Dpt., 20 St. and Constitution Ave. N. W., Wash., D. C., public access road to Hill Field, **WPA**. **$74,182**.

Vermont—State Hy. Dpt., Montpelier, concrete paving 1 mi. SN FAP 21 (2) and 34 (2), Highgate, to R. F. Carpenter, Alburg, **$79,952**. Est. $40,000. Bids 6/27. CD 6/18.

Wash., Raymond—7 mi. concrete, gravel walks, curbs, grading, **WPA**. **$95,000**.

EARTHWORK, WATERWAYS

PROPOSED WORK

★**†Arizona** and **Nevada**—Bureau Reclamation, Interior Bldg., 19 and C Sts. N. W., Wash., D. C., bids soon Davis Dam, earth and rock filled structures, 338 ft. high, 1,350 ft. long, 67 mi. downstream from Boulder Dam, $4,000,000 available. Total cost $41,200,000. CD 5/19—ENR 5/22.

†Conn., Middletown—U. S. Eng. Office, 819 Industrial Trust Bldg., Providence, R. I., earth dike, 30 ft. high between Berlin St. and Little River bridges. Over $25,000.

†Missouri—U. S. Eng., 601 Davidson Bldg., Kansas City, Mo., 1,640 ft. pile dikes in Missouri River between Crooked River and Teteseau Bends. $28,000.

Nebraska—Thurston Co. Soil Conservation Dist., Pender, water and soil conservation, dams and drainage. F. E. Griffin, co. clk.

†Nebraska and **Iowa**—U. S. Eng., 1709 Jackson St., Omaha, Neb., dredging 5,702,033 cu. yd. earth from channell Missouri River at Soldier, Civil, Omadi and Browers Bends. $365,000.

N. J., East Orange—Excavating, concrete retaining wall 2nd River. $43,500. WPA. W. Willegarod, Town Hall, town and WPA engr.

Tex., Cuero—Cuero Independent Drainage Dist., c/o City, drainage project, incl. open ditches, embankments, etc. $255,919. H. R. P. Helland, c/o Frost Bldg., San Antonio, engr. CD 6/26—ENR 7/3.

Tex., Edinburg—Lower Rio Grande Valley Water Conservation Assn., Edinburg (Drainage Dists. 1 and 2), participants in this project only, drainage sys., central portion of county only. $250,000. H. P. Griffin, Edinburg, county engr. Hidalgo Co.

†Tex., Houston — U. S. Eng., Galveston, dredging a slip to serve ordnance depot on channel, by removing 3,500,000 cu. yd. materials and making slip 250 ft. wide, 3,800 ft. long. $170,000.

†Wash., Tacoma—U. S. Eng., Central Bldg., Seattle, dredging harbor. $160,000.

BIDS ASKED

Bids Asked July 28

†New Jersey—U. S. Eng., Phila., Pa., dredging 2,800 cu. yd. material Cohansey River.

Bids Asked July 29

Ill., Rock Island—Dpt. P. Wks. & Buildings, Div. Waterways, 201 W. Monroe St., Springfield, 600 lin. ft. sea wall. C. Jenkins, ch. engr.; adv. ENR 7/24. CD 7/14—ENR 7/17.

†O., Portsmouth—U. S. Eng., Federal Bldg., Cincinnati, 1,414,000 cu. yd. embankment and appurtenant works on Portsmouth-New Boston flood control project, 686,000 cu. yd. excav., 1,256,000 cu. yd. dredged excav., Unit 3, Inv. 203-41-120.

Bids Asked August 1

†Tenn., Columbia—Tennessee Valley Auth., Knoxville, furnishing conveying equip., storage bins and supporting structures for Godwin Plant; adv. ENR 7/24.

Bids Asked August 4

†Tennessee—Tennessee Valley Auth., Knoxville, dredging in Tennessee River below Chickamauga Dam, 76,000 cu. yd. ledge rock and 386 cu. yd. other material; adv. ENR 7/24.

Bids Asked August 5

La., Bossier City—Bd. Comrs., Bossier Levee Dist., City Hall Bldg., clearing 48 mi. channel, Bossier Drainage Canal, from point 2 mi. south of Benton to junction with Loggy Bayou.

†Panama—General Purchasing Officer Panama Canal, 1435 K St. N.W., Wash., D. C., 6,000,000 bbl. concrete for Third Locks Project.

Bids Asked August 8

Calif., La Jolla — University of California, 405 Hilgard Ave., West Los Angeles, sea wall, Scripps Institution of Oceanography. Over $25,000. Private plans, c/o Comptroller University of California, 405 Hilgard Ave., West Los Angeles.

†Rhode Island — U. S. Eng., 819 Industrial Trust Bldg., Providence, dredging 23,500 cu. yd. Harbor of Refuge, Block Island; adv. ENR 7/24.

Bids Asked August 13

†Pa., Brownsville—U. S. Eng., Pittsburgh, removing, reconstructing river wall and removing power house on river wall and constructing operation building at Lock 5, Monongahela River.

Bids Asked August 18

†California—Bureau Reclamation, Denver, Colo., furnishing, del. one 103,000 hp. hydraulic turbine and one oil pressure governor, for Shasta Power Plant, Central Valley Project, Spec. 975; adv. ENR 7/24.

Bids Asked August 19

†California—Bureau Reclamation, Denver, Colo., furnishing, del. three 34,600 hp. hydraulic turbines and 3 oil pressure governors for Keswick power plant, Central Valley Project, Spec. 976; adv. ENR 7/24.

†Florida—U. S. Eng., P. O. Box 4970, Jacksonville, St. Lucie Dam on St. Lucie Canal about 8 mi. inland from Stuart, 7 steel taintor gates, operating machinery, etc.; adv. ENR 7/24.

Bids Asked September 10

†Panama—General Purchasing Officer Panama Canal, 1435 K St. N.W., Wash., D. C., 12,000,000 tons concrete aggregate for Third Locks Project. CD 6/17—ENR 6/19.

LOW BIDDERS

†California—Bureau Reclamation, Old Post Office Bldg., Sacramento, July 11, protection walls and paving for Sacramento River Bridge, 1st Crossing, Southern Pacific R.R. relocation, Kennett Div., Central Valley Project, Spec. 969, from P. Brennan, Redding. **$125,550**. CD 6/20—ENR 6/26.

†California—Bureau Reclamation, Old Post Office Bldg., Sacramento, July 14, earthwork, structures, Battle Creek Rd., migratory-fish control, Kennett Div., Central Valley Project, Spec. 970, from Calowell Constr. Co., 1835 E. Wardlow, Long Beach. **$116,430**. CD 6/24—ENR 6/26.

†Calif., Stockton — U. S. Eng., 208 Post Office Bldg., Sacramento, July 3, dredging 329,200 cu. yd. in San Joaquin Settling Basin near here, Inv. 1105-41-317, from Olympian Dredging Co., 525 Market St., San Francisco, 22.15c. per cu. yd., total **$72,919**. Est. 18c. per cu. yd. Bids 7/3. CD 7/2—ENR 7/10.

†Conn., Hartford—U. S. Eng., 819 Industrial Trust Bldg., Providence, R. I., July 18, dredging 219,000 cu. yd. material, Connecticut River, from J. S. Packard Dredging Co., 1 Court St., Boston, Mass. **$58,473**. CD 7/14.

†Mass., Lowell—U. S. Eng., Park Sq. Bldg., Boston, July 16, flood control project, Merrimack River, 2 floodwalls, 2 pump. stations, etc., from P. Salvucci, Pond St., Waltham. **$335,885**. CD 6/24—ENR 6/26.

†New Jersey—U. S. Eng., 17 Battery Pl., New York, N. Y., July 18, dredging 366,000 cu. yd. material except ledge rock from South River, from Atlantic, Gulf & Pacific Co., 13 Park Row, New York, N. Y. **16.73c.** per cu. yd. Total **$61,232**. CD 6/23—ENR 6/26.

†O., Ironton—U. S. Eng., Federal Bldg., Cincinnati, July 8, embankment, appurtenant work on north unit flood control project, Inv. 203-41-112, from Lewis & Frisinger Co., Ann Arbor, Mich., **$297,152**.

†Oregon—U. S. Eng., 628 Pittock Blk., Portland, July 15, dredging, disposing 294,000 cu. yd. material, Inv. 698-41-600, from Tillamook Bay from Port of Astoria, Astoria. **$64,680**. Est. $49,686. CD 7/1—ENR 7/10.

†Texas—U. S. Eng., Federal Bldg., Galveston, July 9, dredging turning basin channel to Point Bolivar and in front highway ferry landing, from Jahncke Service, Inc., 814 Howard St., New Orleans, La. **$15,973**. CD 6/23—ENR 6/26.

†Tex., Rockport—U. S. Eng., Federal Bldg., Galveston, July 16, dredging tributary channel Louisiana-Texas Intracoastal Waterway from deep water in Aransas Bay, etc., from J. G. McMullen Dredging Co., P. O. Box 343, Harvey, La. **$28,050**. CD 6/3.

CONTRACTS AWARDED

†Arkansas—U. S. Eng., P. O. Box 60, Vicksburg, Miss., earthwork on south bank of Red River, Miller Co., to H. B. Hornsby, Bossier City, La. **$16,350**. CD 5/12—ENR 5/15.

Calif., Sunol — Public Utilities Comn., City Hall, San Francisco, concrete, steel pipe laterals for Sunol Irrigation Sys., Alameda Co., Spec. 390, for City and San Francisco Co., to L. Fitinghoff, 674 Stockton Ave., San Jose. **$18,006**. Est. over $15,000. Bids 7/9. CD 6/23—ENR 6/26.

†Conn., East Hartford—U. S. Eng., 819 Industrial Trust Bldg., Providence, R. I., equipment for Cherry St. and Pitkin St. pump. stations, to Fairbanks Morse & Co., 175 Atlantic Ave., Boston, Mass. **$29,257**. CD 6/10 ENR 6/12.

★**†Georgia**—Tennessee Valley Auth., Knoxville, Tenn., Ocoee Dam No. 3 on Ocoee River between present Ocoee No. 2 Dam and Blue Ridge Dam, about 300 ft. head will be developed by concrete dam 100 ft. high and 12,000 ft. tunnel leading to power plant to be built above Ocoee No. 2 Dam and discharging into Ocoee No. 2 Reservoir, **$6,600,000**; Nottely Dam on Nottely River, about 12 mi. upstream from Ranger, N. C., about **$5,000,000**, own forces.

★**†Ky., Paducah**—U. S. Eng., P. O. Box 59, Louisville, flood control works, Sect. B, Unit 2, to Hoeffken Bros. Supply & Constr. Co., and G. E. Tillman, Centralia, Ill. **$896,709**. CD 6/11—ENR 6/19.

★**†Louisiana**—U. S. Eng., P. O. Box 60, Vicksburg, Miss., Wallace Lake Dam on Cypress Bayou, to Newsam Bros. and J. W. Snowden Co., Columbia, Miss., **$786,369**. Bids 6/25, awarded 6/28. CD 6/12—ENR 6/19.

Mass., Ipswich — Commonwealth of Mass., Dpt. Pub. Wks., H. L. MacDonald, comr., 100 Nashua St., Boston, dredging approx. 50,000 cu. yd. material, Fox Creek to North Atlantic Dredging, Inc., 62 Condor St., East Boston, **$20,170**. CD 6/4—ENR 6/12.

★**†North Carolina**—Tennessee Valley Auth., Knoxville, Tenn., Apalachia Dam on Hiwassee River below Hiwassee Dam, power installation 75,000 kw., a head of 385 ft. will be provided by a 100 ft. high dam and 43,000 ft. tunnel, about **$20,000,000**; Chatuge Dam, 150 ft. high, on Hiwassee River, 4 mi. above Hayesville at confluence of Shooting Creek, about **$5,000,000**, own forces.

★**†O., Massillon**—U. S. Eng., Chesapeake & Ohio Bldg., Huntington, W. Va., channel imprvs., 1st section Massillon Conservancy Dist., etc., to E. J. Albrecht Co., 2632 W. 26 St., Chicago, Ill. **$1,216,674**. CD 7/21.

†Tennessee—U. S. Eng., P. O. Box 97, Memphis, constructing Nonconnah pump. station and closing 2 gaps in levee, to West Memphis Constr. Co., Inc., West Memphis, Ark., **$87,954**. Bids 6/26, awarded 6/27. CD 6/12—ENR 6/19.

Utah, Provo—Provo Bench Canal & Irrigation Co., Provo, concrete lining irrigation canals. **WPA**. **$222,455**.

★**W. Va., Huntington**—U. S. Eng., Federal Bldg., flood protection wall, earth levee and pump. station, etc., to Midwest Constr. & Asphalt Co., 221 N. La Salle St., Chicago, Ill., **$1,608,575**. CD 6/24—ENR 6/26.

UNCLASSIFIED

PROPOSED WORK

★**Calif., Oakland** — SHIPYARD — Interests headed by W. W. Johnson, 82 Hillcrest Rd., Berkeley shipyard, Oakland Estuary. $1,500,000-$2,500,000.

★**Fla., Arcadia** — FIELD RECONSTRUCTION — Riddle Flying School, Arcadia, reconstructing old flying field known as Dorr Field, 10 mi. east of here. $750,000.

UNCLASSIFIED (Proposed Work, Cont'd.)

★†**Fla., Jacksonville**—AIR STATION—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., additional aviation facilities, Air Station. $2,281,100, expansion hospital facilities $344,500.

★**Md., Baltimore** — AIRPORT — Municipal airport. $854,161 WPA gr.

★†**N. J., Hoboken**—SHIP YARD FACILITIES—Todd Shipyards Corp., 1 Bway., New York, N. Y., additional facilities Hoboken Yard. $5,750,000. Navy Dpt. will finance.

★†**N. J., Weehawken and Hoboken**—SHIP YARD FACILITIES—Bethlehem Steel Co., 25 Bway., New York, N. Y., additional facilities at yard. $9,409,000. Navy Dpt. will finance.

★†**N. Y., Brooklyn**—SHIP YARD FACILITIES—Atlantic Basin Iron Wks., 168 Van Brunt St., additional facilities at yard. $1,000,000. Navy Dpt. will finance.

★†**N. Y., Brooklyn**—SHIP YARD FACILITIES—Sullivan Dry Dock & Repair Corp., foot 23 St., additional facilities at yard. $1,804,000. Navy Dpt. will finance.

★†**N. Y., Brooklyn**—SHIP YARD FACILITIES—Todd Shipyards Corp., 1 Bway., New York City, additional facilities, Brooklyn Yard, $3,450,000. Navy Dpt. will finance.

★†**N. Y., Mariners Harbor (Sta. Staten Island)** — SHIP YARD FACILITIES — Bethlehem Steel Co., 25 Bway., New York City, additional facilities, Staten Island Yard. $2,787,000. Navy Dpt. will finance.

★**North Carolina**—GENERATING FACILITIES—Jones-Onslow Electric Membership Corp., Jacksonville, completing generating and transmission facilities now under construction to serve Marine Corps Base and flying field. $1,655,000 REA allot. CD 6/3—ENR 6/5.

Okla., Enid—GAS LINE—Oklahoma Gas & Electric Co., 321 N. Harvey St., Oklahoma City, 7 mi. new 33,000 volt line to serve new aircraft plant, Garfield Co. $25,000.

★†**Tex., San Antonio** — HANGARS — U. S. Eng., Federal Bldg., Galveston, 3 additional airplane hangars, Kelly Field. $585,000.

★†**Washington** and **Oregon**—SUBSTATION—Bonneville Power Administration, P. O. Box 3537, Portland, Ore., Midway substation, relay point for central and eastern Washington and eastern Oregon areas. $792,000.

★†**Washington** and **Oregon** — TRANSMISSION LINE—Bonneville Power Administration, P. O. Box 3537, Portland, Ore., 115,000 volt line from Pendleton, Ore., to La Grande, Wash. $574,090.

★†**Washington** — SUBSTATION — Bonneville Power Administration, P. O. Box 3537, Portland, Ore., North Bonneville substation addn. $540,000.

★†**Washington** — TRANSMISSION LINES — Bonneville Power Administration, P. O. Box 3537, Portland, Ore., allocations for surveys, mapping, design, clearing and constructing second 230,000 volt Bonneville-Grand Coulee transmission line, $3,863,130; double circuit 115,000 volt line between Bonneville and Vancouver, Wash., $1,602,700; 230,000 volt steel tower crossing at Bradford Island, $140,000.

★†**Washington** — TRANSMISSION LINE — Bonneville Project, 811 N.E. Oregon St., Portland, Ore., transmission line from Bonneville dam of single circuit 230,000 volt steel tower line exten. 40 mi. from North Bonneville, to Ampere (Vancouver). $1,219,000.

★†**Wash., Covington**—SUBSTATION—Bonneville Power Administration, P. O. Box 3537, Portland, Ore., substation, near here. $2,211,950.

★†**Wash., Longview**—SUBSTATION—Bonneville Power Administration, P. O. Box 3537, Portland, Ore., substation. $500,000.

★†**Alaska, Kodiak** — LANDPLANE RUNWAYS—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., landplane runways, Naval Air Station. $1,100,000.

†**Alaska, Kodiak**—SEAPLANE PARKING AREA—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., seaplane parking area, Naval Air Station. $375,000.

★**N. S., Westmount**—SHIPYARD—Secy. Dpt. Munitions & Supply, Ottawa, Ont., shipyard. $2,000,000.

BIDS ASKED

Bids Asked July 28

Pa., Harrisburg—AIRPORT—U. S. Eng., 332 Post Office Bldg., Baltimore, Md., apron, taxi strip, and driveway, etc. Harrisburg Municipal Airport, Fairview Twp., York Co.

Bids Asked July 29

N. S., Sydney—WHARF—Secy. Dpt. P. Wks., Ottawa, Ont., wharf, at Sydney, Point Edward, cribwork, etc. $250,000-$300,000. K. M. Cameron, c/o owner, engr.

Bids Asked about July 30

S. C., Charleston—SHIP FITTERS' SHOP, etc.—Dotterer Eng. Co., engrs., 21 Broad St., 100x300 ft. ship fitters' shop, 60x325 ft. pier, 1,400 lin. ft. concrete, sheet pile shore protection and 50x80 ft. office, Concord St., for Charleston Shipbuilding & Drydock Co., 106 Concord St.

†**N. C., Fort Bragg**—GASOLINE FUELING SYSTEM—U. S. Eng., Wilmington, A.C. gasoline fueling sys., Pope Field; adv. ENR 7/24.

Bids Asked July 31

Texas—RURAL ELECTRIC LINES—Rural Electric Administration, c/o S. Scales, Gilmer, 250 mi. rural electric lines to serve in 17 counties and generating plant. $325,000. Freese & Nichols, Capps Bldg., Fort Worth, engrs.

Bids Asked August 4

N. Y., Fredonia — LIGHTING SYSTEM — Village Bd. Trustees, T. Horton, trustee, imprv., exten. street lighting sys. $25,000. Extended date. Village Eng. Dpt., c/o owner, engr. CD 6/27—ENR 7/3.

Bids Asked August 11

Ia., Osage—DISTRIBUTION LINES—F. J. Cromer, city clk., distribu. lines, Hubbard Eng. Co., 616 S. Michigan Ave., Chicago, engr.

Bids Asked August 12

†**Ore., Portland** — SWITCHBOARDS — U. S. Eng., 628 Pittock Blk., control switchboards, steps 6 and 5, for Bonneville power house.

Bids Asked August 18

Ia., Spencer—STEAM DISTRIBUTION SYSTEM—M. M. Moulton, mayor, reconstructing municipal steam distr. sys. Pillsbury Eng. Co., 100 Second Ave. S., Minneapolis, Minn., engr.

Bids Asked

Ont., Aylmer—HANGAR, etc.—Secy. Dpt. Munitions & Supply, Ottawa, additional buildings incl. single hanger, personnel building, incinerator, garage, training school for Dpt. National Defense for Air, Ottawa. About $155,000.

LOW BIDDERS

†**La., Lake Charles**—HANGARS—U. S. Eng., foot of Prytania St., New Orleans, July 15, 3 A.C. hangars for training fields, Advance Single-Engine School, from McMichael Constr. Co., City Bank Bldg., Shreveport, **$236,440.** CD 7/8.

N. Y., Brooklyn—RECONSTRUCTING CAR TRACKS—Bd. Transportation, 250 Hudson St., New York, July 15, reconstructing surface car tracks, from A. Dierks & Co., Inc., 44 Steuben St., **$77,770.** CD 7/3—ENR 7/10.

N. Y., New York—DUMPING BOARD—At office President Manhattan Boro, Municipal Bldg., July 18, completion Contr. No. 9C, general construction sanitation dumping board, E. 60 St. and East River Dr., imprv. E. 49 St. to E. 99 St., from P. J. Carlin Constr. Co., 101 Park Ave., **$86,000.** CD 7/16—ENR 7/10.

★†**Oregon**—TOWERS, CONDUCTORS, etc.—Bonneville Power Administration, 811 N. E. Oregon St., Portland, July 11, furnishing steel towers for Bonneville transmission sys., Inv. 2069, from American Bridge Co., Frick Bldg., Pittsburgh, Pa., **$2,042,846;** 3,000,000 ft. conductor, accessories for Grand Coulee-Spokane 115 kv. line, Inv. 2066, from General Cable Corp., 420 Lexington Ave., New York City, **$585,770.**

S. C., Charleston—SHIPBUILDING WAYS—Charleston Shipbuilding & Drydock Co., 106 Concord St., shipbuilding ways, Concord St., from Charleston Constructors, Inc., Tradd St. and Adger's Wharf, **$40,749;** furnishing approx. 50,000 cu. yd. earth fill, from R. L. Bradham & Sons, Charleston, **$37,690.** Dotterer Eng. Co., 21 Broad St., engrs.

CONTRACTS AWARDED

Arkansas—PIPE LINE—Arkansas Louisiana Gas Co., 300 W. Capitol St., Little Rock, 8 mi. 16 and 10 in. gas pipe line connecting lines from Louisiana and Clarksville, Ark. Owner builds. **$125,000.**

Calif., Alameda—SHIPYARD UNITS—General Eng. & Drydock Co., foot of Schiller St., 3 room tool bldg., 3 room paint storage bldg., 2 bldg. slips, 1 craneway, to Christensen & Lyons, 3454 Harland St., Oakland, **$75,000.**

★**Calif., Los Angeles** — SHIPBUILDING PLANT—Consolidated Steel Corp., 3700 S. Eastern Ave., 8-way shipbuilding plant, Frigate St., west to Neptume St. from West B St. to waterfront, also addn. to ways, imprvs. incl. several steel frame and corrugated iron outfitting buildings and warehouse, north end, west basin, Los Angeles Harbor, Owner builds. Approx. **$4,000,000.** CD 6/24—ENR 6/26.

†**Calif., Mare Island**—MECHANICAL SERVICES—P. Wks. Officer, Mare Island Navy Yard, mechanical services for Dry Dock 4 and connecting quay walls between Dry Docks 3 and 4, Spec. 10458, to Cory & Joslin, 50 Hawthorne St., San Francisco, **$48,320.** Bids 7/9. CD 5/9—ENR 5/15.

Calif., Redding—AIRPORT—Supervs. Shasta Co., A. T. Jessen, chn. Bd., and city of Redding, airport. **WPA. $212,800.**

†**Calif., Sacramento**—AIRPLANE PARKING AREA—U. S. Eng., 1 and Douglas Sts. N. W. Wash., D. C., airplane parking area, Mc[illegible] Field, to McGillivray Constr. Co., 63 and Folsom Blvd., **$338,262.**

Calif., San Bruno—FIRE PROTECTION SYSTEM—Public Utilities Comm., City Hall, fire protection sys. for Airline Terminal, San Francisco (Mills Field) Municipal Airport, San Mateo Co., for City and San Francisco Co., to Viking Automatic Sprinkler Co., 216 Pine St., San Francisco, **$29,800.**

Calif., San Francisco—ICE SKATING RINK—E. J. Kibbe, Mills Tower, San Francisco, ice skating rink addn., to H. L. Risdon & Sons, 5977 Majestic Ave., Oakland, $150,000. L. Chamberlain, 5365 Bway., Oakland, archt. V. E. Johnson, 2834 Garber St., Berkeley, engr.

Calif., San Francisco — RECONSTRUCTING TRACKS—Public Utilities Comm., City Hall, reconstructing tracks, Geary between 3 and 10 Aves., under Municipal Rlwys., Contr. 200, for City and San Francisco Co., to Eaton & Smith, 715 Ocean Ave., $56,192. Bids 7/8. CD 6/30.

Conn., Hartford—AIRPORT—Bd. Constr. & Supply, 550 Main St., airport, Brainard Field, incl. N. S. runway, 3,700 ft. (44th runway) and 4,700 ft. instrument landing Blind Runway SW/NE, **WPA. $304,314.** J. J. McDonough, New Haven, P. Wks. Progress Administrator.

★†**Fla., Tampa** — HANGARS — U. S. Eng., P. O. Box 4970, Jacksonville, 2 air corps flight hangars. Mac Dill Field, to Central Contg. Co., 1st Natl. Bank Bldg., Atlanta, Ga., **$861,000.** Arch Roof Constr. Co., Inc., 55 W. 42 St., New York, engrs. Bids 6/24. CD 6/17—ENR 6/19.

†**Fla., West Palm Beach**—RUNWAYS, etc.—U. S. Eng., 1 and Douglas Sts. N. W. Wash., D. C., paving runways and taxi strips, drainage facilities, underground ducts, airport, to Cleary Bros. Constr. Co., West Palm Beach, **$342,246.** CD 5/7—ENR 5/15.

Ga., Douglas — AVIATION SCHOOL — Raymond-O'Neil Aviation School, c/o W. N. Raymond, Macon, general contract 1 and 2 story brick aviation school, hangars, barracks, etc. to Franklin Wheeler, Miami, Fla. Est. **$300,000.** Stephen H. Zachar, 1st Natl. Bank Bldg., Miami Beach, Fla., archt.

Idaho, Boise—AIRPORT—U. S. Eng., Pittock Blk., Portland, Ore., additional municipal airport construction, runway surface expansion, to Morrison-Knudsen, Inc., 328 Bway., under supervision U. S. Eng. $256,000. CAA allot 101.

★**Ill., Peoria**—AIRPORT—Imprv. municipal airport. **WPA. $987,000.**

★†**La., Shreveport**—RUNWAYS, Etc.—U. S. Eng., 1 and Douglas Sts., N. W., Wash., D. C., runways, landing field, parking area, Barksdale Field, to Forcum-James Co., Greensburg, Tenn., **$1,020,900.** CD 3/10—ENR 3/12.

★†**Miss., Columbus**—TRAINING SCHOOL—U. S. Eng., 1 and Douglas Sts. N. W. Wash., D. C., 148 buildings, Air Base Training School, to W. Horace Williams Co., Inc., 833 Howard Ave., New Orleans, La. Est. **$2,000,000.** (**Correction** — contractor). CD 7/3—ENR 7/10.

★**N. J., Atlantic City**—AIRPORT—Civil Aeronautics Administration, Commerce Bldg., Wash., D. C., airport development. **WPA. $1,331,000.** CD 4/1—ENR 4/3.

†**N. J., Clark** — LANDSCAPING — Federal Works Agency, 7 and D Sts. S.W., Wash., D. C., landscaping, excavating, grading stripping topsoil, seeding for defense housing. **WPA. $138,600.** CD 7/3—ENR 7/17.

★†**N. Y., Rome**—AIR DEPOT—U. S. Eng. Office, Security Bldg., Binghamton, air depot, to Turner Constr. Co., 420 Lexington Ave. and Carleton Co., Inc., 500 Fifth Ave., both New York, N. Y. Est. $15,000,000. CD 7/2—ENR 7/10.

N. C., Elizabeth City—AIRPORT—J. B. Flora, mayor, excavating, clearing, grubbing, placing topsoil on runways, drainage pipes, lighting, beacons, wind tees, sodding, etc. **WPA. $308,020.**

†**Ohio**—PIER—U. S. Eng., Federal Bldg., Buffalo, N. Y., 452 ft. pier exten., Rocky River Harbor, to Great Lakes Dredge & Dock Co., Williamson Bldg., Cleveland, **$37,406.** Awarded 6/20.

†**O., Dayton**—WIND TUNNEL—U. S. Eng., Wright Field, pre-rotation vanes, fairings and honeycomb closed throat sections in new wind tunnel structure, to R. C. Mahon, 8650 Mt. Eliot St., Detroit, Mich., **$164,917.**

O., Lebanon—GRANDSTAND—Warren Co. Agricultural Society, Lebanon, steel, concrete grandstand at fairgrounds, **WPA. $60,000.** CD 2/5—ENR 2/20.

Ore., The Dalles—RUNWAYS—U. S. Eng., 628 Pittock Blk., Portland, runway surfacing, excavation, lighting sys. drainage sys., municipal airport, to Leonard & Slate, Multnomah, **$97,955.** Bids 4/25. CD 4/4—ENR 4/10.

Pennsylvania—POWER LINE—West Penn Power Co., Ridgway, 44,000 volt power line, 10 mi. between Ridgway and St. Marys, Elk Co., own forces. **$25,000.**

Pa., Corry—FENCING, etc.—Bd. Educ., R. S. Dewey, supt., ornamental fencing, floodlighting athletic field, separate contracts **$32,000.** Bids about 5/8. CD 4/24—ENR 4/24.

UNCLASSIFIED (Contracts Awarded, Cont'd.)

Pa., Erie—YARDS—Pennsylvania R. R. Co., W. D. Wiggins, ch. engr., Broad St. Station Bldg., Phila., imprvs. exten. yards and facilities along Lake Erie Shore, own forces. Over **$25,000.** CD 7/10—ENR 7/17.

Texas—GASOLINE PIPELINE—Sinclair Oil Refining Co., c/o Fair Bldg., Fort Worth, and 840 S. Lamar St., Dallas, 34 mi. 6 in. welded joint gasoline pipeline, between Fort Worth and Dallas, to Monarch Constr. Co., 340 S. Lamar St., Dallas, and c/o Fair Bldg., approx. **$110,000.**

Tex., Coleman—FIELD—Field and grounds development for municipality owned airport, WPA. **$58,000.** C. Scott, Coleman, engr.

Tex., Conroe — CLEARING, etc. — Clearing, grubbing, imprv. 550 acre airport, drainage, runways. WPA. **$120,300.** T. E. Gentry, mayor.

Tex., Mission and Edinburg—AIRPORT—Mission and Edinburg, grounds development for new airport, to Briggs-Darby Const. Co., Pharr, **$36,000.**

Tex., Muenster—OIL PIPELINE—Sinclair Refining Co., c/o Fair Bldg., Fort Worth, 9 mi. 4 in. welded joint steel pipeline to Pipe Line Division of Owners, Fair Bldg., Fort Worth, **$70,000.**

Tex., Uvalde—AIRPORT—Hangar Six, Inc., c/o Stinson Field, San Antonio, airport, necessary frame type buildings, utilities, appurtenances, etc., developing 640 acre field for training elementary Air Corps Cadets, to Stover & Younger, Inc., 1429 Milam Bldg., San Antonio, approx. **$260,000.** Est. $350,000.

†Tex., Vernon—TRAINING SCHOOL—U. S. Eng., Vernon, general contract primary training school, to W. A. Zant, Fair Bldg., Fort Worth; plumbing, to Wells Plumbing Co., Quanah. Total est. **$300,000.**

†Tex., Wichita Falls—FUELING SYSTEM—U. S. Eng., Denison, fueling sys., Air Corps Mechanics Training School, to Aqua Systems, 285 Gerard Ave., New York, N. Y. **$84,294.** Est. $100,000.

★**†Utah, Ogden** — RUNWAYS, etc. — Con. Q.M., runways, aprons, sewers, railroad tracks, roads, fences, **WPA. $1,059,866.**

†Va., Langley Field—PAVING RUNWAYS—U. S. Eng., and Douglas Sts. N. W., Wash., D. C., paving runways, to T. E. Ritter Co., 426 W. York St., Norfolk. **$314,995.** CD 5/19—ENR 5/22.

★**†Washington and Oregon** — CIRCUIT BREAKERS—Bonneville Power Administration, P. O. Box 3537, Portland, Ore., 4-cycle oil circuit breakers for North Vancouver, Vernita, Wilsonville, Covington, Longview, Shelton, North Bonneville, Vancouver and Bremerton substation sites in Wash., and St. Johns substation, Ore., to Allis Chalmers Mfg. Co., 1126 S. 70 St., Milwaukee, Wis., General Electric Co., 1 River Rd., Schenectady, N. Y., Pacific Electric Mfg. Corp., 5815 3 St., San Francisco, Calif., and Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., **$923,095.**

★**†Washington** — SUBSTATION TRANSFORMERS—Bonneville Power Administration, P. O. Box 3537, Portland, Ore., four 25,000 kva. transformers, del. North Vancouver, to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., **$580,980.** CD 5/27—ENR 6/5.

Wisconsin — ELECTRIC DISTRIBUTION SYSTEM — **Waushara** County Electric Cooperative, Inc., 307 mi. electric distr. sys., 1 substation in Waushara, Waupaca, Adams, Marquette, and Green Lake Counties, to G. A. Ferguson, Crandon, **$179,053.** Bids 7/10. CD 7/1.

Alta., Bowden—GROUND DEVELOPMENT—Dpt. National Defense for Air, Ottawa, Ont., ground development work, Elementary Flying Training School 32, to Western Canada Co. Ltd., Edmonton, **$272,177.**

Alta., Claresford — GROUND DEVELOPMENT—Dpt. National Defense for Air, Ottawa, Ont., ground development at Service Flying Training School 15, to General Constr. Co. Ltd., Granville Island, Vancouver, B. C. **$51,338.**

Alta., Dewington — GROUND DEVELOPMENT—Dpt. National Defense for Air, Ottawa, Ont., ground development, Elementary Flying Training School 31, to Dutton Bros. & Co. Ltd., 1108 McArthur Bldg., Winnipeg, Man., **$215,584.** CD 2/14.

Alta., McLeod—GROUND DEVELOPMENT—Dpt. National Defense for Air, Ottawa, Ont., ground development, Service Flying Training School 7, to Western Canada Constr. Co. Ltd., Edmonton, **$29,388.**

N. S., Halifax—SUBMERSION POOL—Dpt. National Defense for Sea, Ottawa, Ont., dredging submersion pool at floating dry dock, to J. P. Porter & Sons Ltd., 1016 St. Catherine St. W., Montreal, Que. **$128,000.**

Ont., Aylmer—GROUND WORK—Dpt. National Defense for Air, Ottawa, additional development work, Service Flying Training School, to Towland Constr. Co. Ltd., 294 Dundas St., London. **$53,496.**

Ont., Brantford—SERVICE FLYING TRAINING SCHOOL DEVELOPMENT—Dpt. National Defense for Air, Ottawa, additional development, Service Flying Training School, to Standard Paving Ltd., Harbour Commission Bldg., Toronto. **$29,042.**

★**Ont., Clarkson** — DOCKS, etc. — British American Oil Co., Ltd., Royal Bank Bldg., Toronto, 1st unit comprising docks, water intake of proposed refinery, to Russell Constr. Co., Ltd., Harbour Commissioners Bldg., Toronto. Total est. **$3,000,000.**

★**Que., Montreal**—UNDERGROUND TRANSMISSION LINE—Montreal Light, Heat & Power Consolidated, 107 Craig St. W., 6½ mi. underground transmission line from Atwater substation to terminal station Shawinigan Water & Power Co., Maisonneuve St., ductwork, to G. M. Gest, Ltd., 107 Craig St. W.; cable, to Canada Wire Cable Co., Ltd., 159 Craig St. W. Est. **$1,000,000.**

PUBLIC BUILDINGS

PROPOSED WORK

†Alabama—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., army camp, Pea River site, near Ozark and Enterprise.

†Alabama—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., aluminum plant, 100,000,000 lb. yearly capacity, Muscle Shoals section (North Alabama). Reynolds Metal Co., 7th and Bainbridge Sts., Richmond, Va., will operate.

★**†Ala., Huntsville**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., chemical warfare service arsenal. $40,000,000. Whitman, Requardt & Smith, W. Biddle and Charles Sts., Baltimore, Md., engrs. CD 7/9—ENR 7/17.

★**Ala., Montgomery**—State, c/o A. R. Forsyth, dir. Finance, Montgomery, plans by Warren, Knight & Davis, Protective Life Bldg., Birmingham, 8 story, brick, stone office bldg. $1,300,000.

†Ala., Ozark-Enterprise—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

†Ariz., Fort Huachuca—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

Calif., Fairfield—Solano Co., plans by H. J. Devine, Cronan Bldg., Sacramento, rein.-con. county hospital and detention home addns. $150,000.

Calif., Hawthorne—Hawthorne School Dist., plans by Kistner-Wright, 412 Architects Bldg., Los Angeles, 19 classroom addns. to 3 schools incl. Washington School, Williams St. and York Ave. Schools. $176,000.

†Calif., Los Angeles—Phelps Dodge Copper Products Corp., 40 Wall St., New York, plant addn., for Navy Dpt. $105,000. Defense Plant Corp. will finance.

★**Calif., Los Angeles**—Housing Auth. of City of Los Angeles, 1031 S. Bway., plans by D. J. Witmer & Associates, 916 Architects Bldg., 214 unit, reinforced brick, Estrada Courts Housing, Soto St. and Olympic Blvd. $996,000.

†Calif., Marysville—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

★**Calif., Sacramento** — Sacramento Housing Auth., B. W. Cavanaugh, exec. secy., City Hall, plans completed by H. J. Devine, Cronan Bldg., C. F. Dean, California State Life Bldg., and L. F. Starks, Bank America Bldg., 170 unit Dos Rios low rent housing. $560,000. CD 5/9—ENR 5/15.

Calif., Salinas—Supervs. Monterey Co., additional units county hospital.

★**Calif., San Bernardino** — San Bernardino County Housing Auth., A. Gray, secy., Colton, plans by J. D. Harnish, Ontario, housing. $3,000,000.

★**Calif., San Francisco** — Regents of University of California, Berkeley, plans by T. L. Pflueger, 590 Market St., rein.-con., steel California Medical School (Hospital) addn. $2,000,000.

Calif., Shafter—Shafter Elementary School Dist., plans being completed by Franklin & Kump, Patterson Bldg., Fresno, rein.-con. school auditorium. $150,000. CD 12/18—ENR 12/20.

Calif., Vallejo — Bd. Educ., Junior High School and 4 new grammar schools.

†Colo., Colorado Springs—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

★**Colo., Denver**—G. E. Cranmer, city mgr., plans by F. E. Mountjoy, 2901 York St., and G. M. Musick, Patterson Bldg., municipal auditorium addn. $500,000.

†Colo., Fort Lupton—Farm Security Administration, Denver, plans by E. E. Redding, regional archt., Denver, farm labor camp, twenty-five 4 room cottages, twelve 4 family homes, one hundred 1 room shelters, community building, administration buildings, sewers, water lines, gas distr., etc. $300,000.

†Conn., New London—U. S. Coast Guard, Wash., D. C., bids soon, 3 story, 40x100 ft., brick, steel infirmary, Coast Guard Academy, $368,000. Shreve, Lamb & Harmon, 11 East 44 St., New York, N. Y., archts. Clark, McMullen & Riley, 101 Park Ave., New York, N. Y., engrs. CD 5/27—ENR 6/5.

Conn., Stratford—W. Shea, town mgr., Town hall, sketches by F. Beckwith, 19 Post Office Arcade, Bridgeport, elementary school, Stonybrook section. $160,000.

★**†Fla., Key West**—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., new buildings and acquiring land for Naval Hospital. $1,000,000.

†Fla., Venice—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. No funds available. Site selected.

†Ga., Savannah—Savannah Housing Auth., Amer. Bank Bldg., plans by Cletus W. Bergen, Liberty Bank Bldg., defense housing, for USHA. $350,000. CD 7/10—ENR 7/17.

†Idaho, Boise—U. S. Eng., Pittock Blk., Portland, Ore., warehouse, Army Airbase. $19,400.

Ia., Durant—B. J. Lewis, mayor, approved $115,000 bonds, light plant. $155,000. CD 7/15—ENR 7/17.

Ia., Waverly—Sketches light plant imprvs., extens. $87,000. Stanley Eng. Co., Muscatine, Ia., engr.

★**Kan., Shawnee**—Shawnee Mission, RFD, Kansas City, Mo., approved $500,000 bonds, rural high school addn. Hardy & Schumacher, Scarritt Bldg., Kansas City, Mo., archts. CD 6/24—ENR 6/26.

Kan., Wichita—Bd. Educ., sketches by Lorentz Schmidt, 1832 E. 2 St., Wichita, 1 and 2 stories 194x427 ft. vocational training school. $300,000.

†Ky., Morganfield—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

†Md., Aberdeen—Con. Q.M., Court Square Bldg., Baltimore, plans nearing completion 2 story, 60x160 ft. ordnance school and 1 story, 50x150 ft. garage, Aberdeen Proving Grounds.

†Md., Annapolis—Yards & Docks, Navy Dpt., Wash., D. C., storage building and rifle range, U. S. Naval Academy, $30,000, radio facilities buildings and accessories, U. S. Naval Radio Station, $140,000.

★**Md., Baltimore** — 3 story, school Bond, Orleans, Jefferson and Bethel Sts. $500,000. Public Impvt. Comn., City Hall, engrs.

†Md., Baltimore—U. S. Coast Guard Depot, Curtis Bay, plans by O. K. Robinson, Old Liberty Loan Bldg., Wash., D. C., quarters for personnel. $337,500. CD 5/6—ENR 5/8.

†Md., Edgewood—Con. Q.M., Edgewood Arsenal, 2 story, brick, steel arsenal buildings, incl. warehouse.

Md., Salisbury—Bd. Educ. plans by Malone & Williams, Salisbury, school. $150,000. CD 11/18—ENR 11/21.

Mass., Brookline—Norfolk Co., F. A. Leavett, chn., Court House, Dedham, bids soon, 2 story bsmnt., brick, stone, granite court house, concrete fdn. $265,000. Coolidge, Shepley, Bulfinch & Abbot, 1 Court St., Boston, archts. CD 5/19—ENR 5/22.

Mass., Chicopee—School Comm., 135 Grape St., bids in August, 1 and 2 story, 62x186 ft., brick, steel trade school with 2 one story ells 80x200 ft. and 50x150 ft., Quarry and Front Sts. $180,000. H. J. Tassier, 220 Dwight St., Springfield, archt. CD 6/19—ENR 6/26.

★**Mass., Chicopee**—Chicopee Housing Auth., O. A. Savaria, chn., 300 unit defense housing, Meadow St. for USHA. $1,050,000. A. M. Gray, 173 High St., Boston, archt.

★**†Mass., Hingham**—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., Navy shore station, incl. exten. Naval facilities, buildings, shops, etc. $3,000,000.

★**Minn., Minneapolis**—Federal Cartridge Co., 2300 Foshay Tower, plans ammunition plant near here, for War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C. $30,000,000. Smith, Hinchman & Grylls, 800 Marquette Bldg., Detroit, Mich., engrs. CD 7/7—ENR 7/10, under St. Paul.

Minn., Spring Valley — Bd. Educ., Mary Larson, clk., Spring Valley, bids latter part July, general contract superstructure school. $174,000. Schubert & Sorenson, 117 W. 3 St., Winona, archts. CD 7/16.

Minn., Winona—Bd. Educ., Adele H. Kressin, clk., plans by Boyum, Schubert & Sorensen, 117 W. 3 St., 2 story, bsmnt., rein.-con., brick, stone school. $225,000.

Miss., Biloxi—School Bd., L. Brown, mayor, school. $325,000.

Miss., Meridian—H. M. Ivy, chn. School Bd., school. $200,000.

Miss., Moss Point—G. Wood, mayor, school addn. $150,000.

Miss., Pascagoula—School Bd., W. R. Gulley, mayor, school. $344,000.

†Mo., Moberly—Pub. Bldgs. Administration, Wash., D. C., bids soon, 1 story, bsmnt., rein.-con., brick, stone post office and federal building, eastern half Tannehill Park. $170,000.

†Mo., Rolla—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., field house, Fort Leonard Wood. $77,000.

†Mo., St. Charles—Pub. Bldgs. Administration, Wash., D. C., 140 unit defense housing.

PUBLIC BLDGS. (Proposed Work, Cont'd.)

†**Mont., West Yellowstone**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

Neb., Bellevue—School Dist. 5, Elizabeth P. Smith, clk., high school and grade school. $375,000. To file application with PWA.

Neb., Lincoln—University of Nebraska, L. F. Seaton, supt., plans by Meginnis & Schaumberg, Federal Security Bldg., home economics building. $150,000.

★**Neb., Omaha**—Bd. Educ., H. M. Corning, supt., 4 story South High School addn. $700,000.

★†**N. J., Newark**—Titeflex Metal Hose Co., 500 Frelinghuysen Ave., plant for manufacture radio equip., for Navy Dpt. $285,000 for land, buildings and imprvs.; $715,000 for machinery and equip. Total est. $1,000,000. Defense Plant Corp. will finance.

N. Y., Niagara Falls—W. D. Robbins, city mgr., City Hall, municipal hospital. Over $150,000. H. W. Clark, city engr.

N. Y., Boonville—Central School Dist., town of Brownville, plans by C. W. Clark, 27 N. Main St., Cortland, school. Over $150,000.

N, Y., Brooklyn—New York City Housing Auth., 122 E. 42 St., New York, G. Swope, chn., plans by W. F. R. Ballard, 9 Rockefeller Plaza, New York, 2 story, 77x200 ft., community house, Park Ave. $170,000.

N. Y., Eldred Highland (P. O. Eldred)—Bd. Educ., Urion Free School Dist., plans by H. O. Fullerton, 152 Washington Ave., Albany, school. $243,000. Bonds voted. CD 1/22—ENR 2/6.

★†**N. Y., Schenectady**—General Electric Co., 1 River Rd., plant expansions. Over $1,000,000. Defense Plant Corp. will finance.

†**N. C., Durham**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

O., Curtice—Allen Twp. Rural School Dist., L. H. Henningsen, clk., centralized school. $150,000 bond election Aug. 12.

★**O., Euclid**—Bd. Educ., W. A. Hecker, pres., 1520 Chardon Rd., brick, steel, concrete high school. $875,000. H. A. Fulton, 5716 Euclid Ave., Cleveland, archt.

★†**O., Massilon** — Federal Works Agency, Wash., D. C., 300 unit defense housing Walnut Rd. S.E. and East 16 St. S.E. $1,000,000.

O., Milford—J. M. Barrare, mayor, municipal light plant. $229,000-$259,000. C. J. Simon, Van Wert, engr.

O., Toledo—G. N. Schoonmaker, city mgr., storage and service bldg. for Div. Streets. $200,000. C. L. Piper, Comm. of Eng., Toledo, engr.

†**O., Youngstown**—National Youth Administration, 15 St. and New York Ave., Wash., D. C., 1 story vocational training shop. $80,000.

†**Ore., Corvallis**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

★**R. I., Newport**—Supt. Schools, brick steel Senior High School. $1,200,000.

†**Tenn., Clarksville**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

†**Tenn., Hopinsville**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

Tex., Austin—State Bd. Control, H. Knox, Jr., chn., Austin, plans by C. H. Page & Son, Enfield-Gracy Bldg., repairing capitol bldg. $187,117. CD 6/25—ENR 7/3.

†**Tex., Bastrop**—War Dpt., 20 St. and Constitution Ave. N. W., Wash., D. C., preliminary plans, camp. Site selected. No funds available.

Tex., Fort Worth—S. H. Bothwell, city mgr., bids soon administration building for Meacham Field. $175,000. W. G. Clarkson & Co., 810 1st Natl. Bank Bldg., archt.

†**Tex., Grand Prairie**—U. S. Eng., 1 and Douglas Sts. N. W., Wash., D. C., plans by Allen & Kelley, 634 Architects & Bldrs. Bldg., Indianapolis, Ind., additional imprvs., testing and garage building, Airplane Assembling Plant. $100,000.

†**Tex., Lamesa**—Dpt. Agriculture, Farm Security Administration, Parry Ave. at Commerce St., Dallas, revising plans Migratory Farm Labor Camp and facilities, cottages, shelters, utilities. Bids June 17 rejected. CD 6/23—ENR 6/26 under LB.

Tex., Lubbock—Texas Technological College, plans by W. C. Hedrick, 1005 1st Natl. Bank Bldg., Fort Worth, 2 story, brick, concrete agricultural building. $250,000.

Tex., Mabank—Bd. Educ., plans by Brennan & Co., Allen Bldg., Dallas, 1 story, 128x184 ft. school. $155,000.

Tex., Midland—Bd. Educ., school. $245,000.

Tex., Midlothian—Bd. Educ., plans by Brennan & Co., Allen Bldg., Dallas, 1 story, brick, concrete, steel school and library. $155,000.

†**Tex., Paris**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans, camp, Site Selected. No funds available.

Tex., San Antonio—Bd. Educ., Lavaca and Waters Sts., plans by Phelps & DeWees & Simmons, 90 Majestic Bldg., brick, concrete vocational and technical training school unit Lanier High School, $175,000 new unit to existing vocational and technical school plant. $250,000. WPA.

★†**Tex., San Antonio**—Con. Q.M., Fort Sam Houston, metal, concrete warehouse unit. $800,000.

★†**Tex., San Antonio**—U. S. Eng., Santa Fe Bldg., Galveston, 43 new buildings, barracks, mess halls, administration, etc. Over $500,000.

Tex., Waco—Repair shop, hangars, administration building, appurtenances, new municipal airport. $90,000.

†**Tex., Waco**—War Dpt., 20 St. and Constitution Ave, N. W., Wash., D. C., preliminary plans camp. Site Selected. No funds available.

†**Wash., Spokane**—U. S. Eng., 700 Central Bldg., Seattle, warehouse, Army Airbase. $19,400.

†**Wis., Camp McCoy**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., preliminary plans for camp. Site selected. No funds available.

★†**Alaska, Kodiak**—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., power plant building and equip. for submarine base, $600,000; officers' quarters, Naval Air Station, $272,500.

BIDS ASKED

Bids Asked July 28

†**D. C., Bolling Field**—U. S. Eng., 1 and Douglas Sts. N.W., Wash., D. C., structural steel framework and furnishing, del. miscellaneous metal work for A.F. combat command control building; adv. ENR 7/27.

★†**Me., Bath-Brunswick**—Pub. Bldgs. Administration, Wash., D. C., 200 single units for defense housing. $600,000. CD 6/3—ENR 6/12.

N. Y., New York—Dpt. P. Wks., Municipal Bldg., boiler and electric generating plants addn. Harlem Hospital, Lenox Ave. 136 and 137 Sts.

Bids Asked July 29

†**Ark., Rogers**—Farm Security Administration, Little Rock, 15 buildings on farmsteads.

★†**Conn., Bridgeport**—Federal Works Agency, 2082 Kings Highway, Fairfield, 250 dwelling units, Conn. 6052-X, Huntington Turnpike and Evers St. $750,000. Extended date. W. J. Skinner, 120 Bank St., archt. CD 7/9—ENR 7/17.

†**Conn., East Hartford** — Federal Works Agency, 2082 Kings Highway, Fairfield, 500 dwelling units, defense housing, Conn. 6024-X, Laurel Park Heights. Extended date. Scheide, Brown & Wilkins, 100 Pearl St., Hartford, Sherwood F. Jeter, Jr., 594 Prospect St., Hartford, and Lyons & Mather, 211 State St., Bridgeport, archts. CD 7/9—ENR 7/17.

Georgia—Southwest Georgia County Housing Auth., c/o E. C. Mann, exec. dir., Thomasville, 11 frame low rent homes, Thomas, Brooks, Lowndes, Colquit, Mitchell, Decatur, Grady, Baker, Calhoun, Worth and Crisp Counties. Wm. J. J. Chase, 140 Peachtree St. N. E., Atlanta, archt.

†**La., Jennings**—Farm Security Administration, Little Rock, Ark., farmstead buildings.

Mass., Braintree—Town, H. Higgins, chn. Bldg. Com., brick, steel high school, Washington St. $250,000. Shepard & Stearns, 65 Franklin St., Boston, archts. CD 5/21—ENR 5/29.

Mo., Kansas City—A. C. Everham, dir. P. Wks., 1 story, 26x50 ft. brick, concrete produce spaces. $400,000. Keene & Simpson, Land Bank Bldg., archts. CD 6/26—ENR 7/3.

†**Mo., St. Louis**—Pub. Bldgs. Administration, Wash., D. C., plaster painting, U. S. Custom House (old), Locust, 8, Olive and 9 Sts.

Bids Asked July 30

★†**Conn., Fairfield**—Federal Works Agency, 2082 Kings Highway, Fairfield, 200 dwelling units, defense housing, Conn. 6071-X, Knapps Hy. $700,000. Extended date. J. Gerald Phelan, 1336 Fairfield Ave., Bridgeport, archt. CD 7/8—ENR 7/10.

N. Y., Deer Park—Commissioner Mental Hygiene, State Office Bldg., Albany, tunnels and service connections, new State Hospital, near here. $175,000. Extended date. CD 6/17—ENR 6/19.

★†**Pa., Pittsburgh**—Allegheny County Housing Auth., Law & Finance Bldg., Glen Hazel Heights Defense Housing, 1,000 families, for FWA. $4,500,000. Hill, Heckler, Hoover & Kohanki, Professional Bldg., archts. CD 7/14—ENR 7/17.

Bids Asked July 31

†**Ark., Batesville**—Farm Security Administration, Little Rock, 27 buildings on farmsteads.

†**Conn., Stratford**—Federal Works Agency, 2082 Kings Highway, Fairfield, defense housing, Conn. 6061-X. B. S. Gruzen, 921 Bergen Ave., Jersey City, N. J., archt. Extended date. CD 7/9—ENR 7/17.

Ky., Greendale—M. C. Howard, dir. Div. Purchases, Commonwealth Kentucky, Frankfort, steam, hot water distr. sys., auxiliary equip., Kentucky Houses of Reform, Greendale. R. C. Wyatt, ch. engr. Eng. and Const. Div., Frankfort.

★**N. C., Wilson**—Offices of Budget Bureau, Revenue Bldg., Raleigh, Gravely, chn. sanatorium, 125 acre tract for Eastern North Carolina Sanatorium, P. P. McCain, supt. $600,000. W. Hendrick, mercial Bank Bldg., Charlotte, archt. Wyatt & Wilson, American Bldg., Richmond, Va., consult. engr. CD 4/23—ENR 7/17.

S. D., Vermillion—University of South Dakota, administration building addn. $200,000.

Bids Asked about August 1

Idaho, Pocatello—University of Idaho, dorm. ft. Pharmacy building. $150,000. Sundberg & Sundberg, Idaho Falls, archts. CD 7/14—ENR 5/22.

Mont., Warm Springs—State Bd. Examiners, Helena, dormitory, State Mental Hospital, $156,000. J. G. Limk & Co., Billings, and R. C. Hugenin, Butte, archts. CD 7/28—ENR 6/5.

Bids Asked August 2

†**Conn., Bridgeport**—Federal Works Agency, 2082 Kings Highway, Fairfield, 150 dwelling units, defense housing, Conn. 6054-X. Park Ave. $450,000. Extended date. Charles Washington Walker, 1115 Main St., archt. CD 7/14—ENR 7/17.

★†**Conn., New Britain**—New Britain Housing Auth., 200 brick dwelling units, Rocky Hill Ave. and Ellis St., for FWA. $700,000. Extended date. H. F. Ludorf, 410 Asylum St., Hartford, archt. CD 6/6—ENR 6/12.

†**O., Cleveland**—National Advisory Com. for Aeronautics, E. R. Sharp, constr. administrator, Langley Field, Hampton, Va., 1 story, 210x232 ft. and 60x90 ft. technical service building to house laboratory, garage, offices and storage. $400,000.

Bids Asked August 5

★**Calif., Los Angeles**—Housing Auth. of city of Los Angeles, 1031 S. Bway., Pueblo Del Rio Housing, 52 St. to 55 St. at Alameda Ave. and Long Beach Blvd. $1,768,000. Extended date. Southeast Housing Project Architects, 505 Architects Bldg., archts. E. A. Evans, 437 S. Hill St., engr. CD 7/7—ENR 7/10.

★†**Conn., Bridgeport**—Federal Works Agency, 2082 Kings Highway, Fairfield, 400 dwelling units, defense housing, Conn. 6053-X. Success Park. $1,000,000. Extended date. H. G. Lindsay, 211 State St., archt. CD 7/3—ENR 7/17.

†**Ky., Lexington**—Con. Q.M., warehouses 1 and 5, 4 and 6, administration bldg., heating plant and distr. sys., electric distr. sys. and sub-station, railroads, roads, walks and grading. Allied Engineers & Architects, 602 McClelland Bldg., archts.; adv. ENR 7/24.

Mass., Brookline—Comrs. Norfolk Co. F. A. Leavitt, chn., County Court House, Dedham, brick, stone court house. $270,000. Coolidge, Shepley, Bulfinch & Abbott, 1 Court St., Boston, archts.

Bids Asked August 8

†**Ill., Chanute Field (Rantoul)**—Con. Q.M., storehouses and storage building for inflammables.

†**Ill., Rantoul**—U. S. Eng., P. O. Box 59, Louisville, Ky., 7 storehouses and 1 storage building for inflammables, Chanute Field; adv. ENR 7/24.

Bids Asked August 12

★**Calif., Los Angeles**—Housing Auth. of city of Los Angeles, 1031 S. Bway., Rancho San Pedro Housing, San Pedro. $1,298,500. Extended date. Architects Collaborating, 1008 Architects Bldg., Los Angeles, archts. F. V. Ropp, 1014 Edison Bldg., structural engr. CD 7/14—ENR 7.17.

N. J., Irvington—2 story, bsmnt., brick, limestone, town hall, Clinton Ave. $300,000. D. A. Hopper, Jr., 1000 Springfield Ave., archt.

Bids Asked August 13

N. Y., Brockport — Commissioner Educ. State Education Bldg., Albany, miscellaneous construction, New York State Normal School.

Bids Asked August 19

†**O., Dayton**—Veterans Administration, Arlington Bldg., Wash., D. C., Domiciliary Theatre Building 29.

Pa., Phila.—General State Auth., 2 and Locust Sts., Harrisburg, workers building Philadelphia State Hospital.

Bids Asked August 28

N. Y., Rome—Dpt. Educ., Education Bldg. Albany, boiler, laundry, kitchen, dining room, gymnasium at Institute for Deaf Mutes $160,000. Extended date. Wm. E. Haugaard State Bldg., Albany, archt. CD 5/13—ENR 5/22.

LOW BIDDERS

Calif., Los Angeles—A. Boyd, state archt. P. Wks. Bldg., Sacramento, July 1, 3 story, bsmnt., 138x207 ft. rein.-con. office, Spring St., from H. Mayson, 9315 S. Hooper Ave., **$263,000.** CD 6/9—ENR 6/12.

†**Fla., Jupiter**—Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C. barracks, married personnel buildings, Naval Direction Finder Station, from J. S. Willson, 153 Worth Ave., Palm Beach. **$60,607.**

PUBLIC BLDGS. (Low Bidders, Cont'd.)

Ia., Des Moines—Polk Co., O. Lindstrum, aud., July 15, hospital, from W. A. Klinger, Inc., 201 Warnock Bldg., **$387,476.** CD 7/1—ENR 7/10.

†**Ky., Avon** — Con. Q.M., c/o McClelland Bldg., Lexington, July 15, administration building, 4 warehouses, service station, motor repair garage, paint, oil and dope house, sentry house, heating plant, steam distr. sys., fencing, from Fleisher Eng. & Constr. Co., Dun Bldg., Buffalo, N. Y., **$4,300,000.** CD 7/3—ENR 7/10.

†**Mich., Sault Ste. Marie**—U. S. Eng., 605 Federal Bldg., Detroit, June 28, brick, steel, concrete, stone warehouse, from A. H. Proksch, Iron Mountain. **$275,500.** CD 6/3—ENR 6/5.

Mont., Anaconda—Anaconda Housing Auth., June 18, 80 unit housing, from Halverson Constr. Co. and J. Sletton, Billings. **$309,743.** CD 5/28—ENR 6/5.

†**O., Toledo**—Toledo Metropolitan Housing Auth., A. G. Spieker, chn., 392 Nebraska Ave., July 15, general contract 53 buildings, 212 dwelling units, Ravine Park Village Housing, Ohio 6-3, from J. H. Berkebile & Sons Co., 998 Whittier St., **$644,000***** plumbing, heating, from Davis Bros., Inc., 2631 Bagley St., Detroit, Mich., **$197,333***** electrical work, from Romanoff Electric Co., 105 Bway., **$36,200.** CD 6/25—ENR 7/3.

†**Pa., Clairton** — Allegheny County Housing Auth., 201 County Office Bldg., Pittsburgh, July 15, 450 family defense housing, Pa. 36161X, from James McHugh & Sons, Inc., 6449 S. Park Ave., Chicago, Ill., **$2,022,000.** Est. $1,800,000. CD 7/3—ENR 7/10.

†**Pa., Harrison Twp.** — Allegheny County Housing Auth., 201 County Office Bldg., Pittsburgh, 200 family units, Sheldon Park Defense Housing, for FWA, from Henry Shaffer Lumber Co., Kittanning. **$877,450.** Prack & Prack, Martin Bldg. N.S., Pittsburgh, archts.

†**Pa., Heidelberg**—Allegheny Housing Auth., 201 County Office Bldg., Pittsburgh, July 14, 250 family defense housing, Scott Twp., Pa. 36212, for FWA, from George Dreyman, Inc., 8 Tier St., New York, N. Y. **$850,101.** CD 7/3—ENR 7/10.

†**Pa., New Kensington**—Allegheny Housing Auth., 201 County Office Bldg., Pittsburgh, July 15, 250 family defense housing, PA 36111, for FWA, from Jos. J. Bendik, 6 Gilmore St., Unlontown. **$1,080,000.** Est. $1,000,000. CD 7/9.

†**Pa., North Braddock**—Allegheny County Housing Auth., 201 County Office Bldg., Pittsburgh, 200 family units, Braddock Heights Defense Housing, for FWA, from Seisel Constr. Co., Flannery Bldg., Pittsburgh. **$878,000.** Ritchey & Mitchell, 617 Wm. Penn Way, Pittsburgh, archts. CD 7/3.

†**Pa., Shaler Twp.** — Allegheny County Housing Auth., 201 County Office Bldg., Pittsburgh, July 15, 250 family defense housing, for FWA, from Madsen Constr. Co., 1790 Lyndale Ave., Minneapolis, Minn. **$1,019,700** base bid. CD 7/9.

CONTRACTS AWARDED.

†**Ark., Little Rock** — Con. Q.M., Camp Joseph T. Robinson, additional 157 buildings, chapels, mess halls, warehouses, induction buildings, recreational buildings, to J. J. Fritch, Construction Bldg., Dallas, Tex. Est. **$1,000,000.** CD 7/2—ENR 7/10.

†**Ark., Little Rock**—Con. Q.M., Camp Joseph T. Robinson, motor repair shops, to Buford Bracy, 2816 West 16 St., **$314,000.** Bids 6/25. CD 6/17—ENR 6/19.

†**Calif., Benicia**—Federal Works Agency, 7 and D Sts. S.W., Wash., D. C., 100 defense housing units, O St. between 3 and 5 Sts., to H. Mayson, 9315 Hooper Ave., Los Angeles, **$237,500.**, cost plus fixed fee. CD 6/3—ENR 6/12.

Conn., Farmington—Bd. Selectmen, Town Hall, 2 story, bsmnt. Noah Wallace School addn., School St., to A. F. Peaslee, Inc., 15 Lewis St., Hartford. Est. **$150,000** Bids 7/11. CD 7/8—ENR 7/3.

†**Conn., Groton**—Pub. Works Administration, Wash., D. C., 200 brick dwelling units for Electric Boat Co. workers, to F. A. Mac Sheffray Co., 729 Boylston St., Boston, Mass. Est. **$600,000.** CD 6/17—ENR 6/19.

†**D. C., Wash**—War Dpt, 20 St and Constitution Ave N.W., Wash., D. C., engineer reproduction plant, Dalecarlia Reservoir, to C. H. Tompkins Co., 907 16 St. N.W., Wash., D. C. **$1,019,500.** Porter & Lockie, Metropolitan Bank Bldg., Wash., D. C., archts.

†**Fla., Fort Barrancas**—Con. Q.M., radio shelter, ordnance warehouse, shop and administration building, to F. L. Bray Constr. Co., Battle House, Mobile, Ala. **$132,706.** CD 4/28—ENR 5/1.

†**Ga., Fort Benning**—Gen. Q.M., 3 motor repair shops, also reception center, to Williams Lumber Co., 1038-13 St., Columbus. **$645,000.**

†**Ga., Hinesville**—Federal Works Agency, 7 and D Sts., S.W., Wash., D. C., 100 demountable 5-room houses, Camp Stewart, to Greene Lumber Co., Laurel, Miss., **$290,000.** Beutell & McDonald, 291 Peachtree St. N.E., Atlanta, archts. CD 6/3—ENR 6/12.

†**Ga., Hinesville**—Con. Q.M., Camp Stewart, day rooms, barracks, regimental chapels, to H. I. Flinn, 40½ Commerce St., Montgomery, Ala., **$227,667.** CD 5/20—ENR 5/22.

†**Ind., La Porte**—Public Building Administration, Wash., D. C., 200 housing units and 2 management maintenance buildings, to James I. Barnes Constr. Co., Logansport. **$684,000.** Bids 6/23, awarded 7/11. CD 7/1—ENR 7/10.

†**Ia., Des Moines**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., plant for manufacture small arms, to Weitz Co., 713 Mulberry St., and McLaughlin Bros., both Des Moines, and Central Eng. Co. and W. O. Priester Co., both Davenport, **$30,000,000.** CD 7/7—ENR 7/10.

†**Ky., Fort Knox**—Con. Q.M., light and heavy maintenance building, motor repair shops, racks, oil houses, etc., to Sullivan & Cozart, Armory Pl., Louisville. **$251,000.** Bids 6/27. CD 6/17—ENR 6/19.

†**Ky., Fort Knox**—Con. Q.M., ice plant, to A. L. Coupe Constr. Co., 430 E. Burnett St., Louisville. **$61,750.** CD 10/2—ENR 10/10.

†**Ky., Fort Knox**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., general contract 110 barracks, 31 mess halls, 36 administration buildings, 10 recreation buildings, 3 infirmaries, 3 post exchanges, 3 guards' houses, class rooms, headquarters buildings, 7 warehouses, fire station, motor repair shop, theatre, 9 hospital wards, post office, 9 officers' quarters, arms building, gunnery building, etc., to Whittenberg Constr. Co., 2214 S. Floyd St., Struck Constr. Co., 147 N. Clay St., George M. Eady Co., 340 Byrne St., and Highland Co., 644 Baxter St., all of Louisville. **$5,937,839.** CD 7/11—ENR 7/17.

†**La., DeRidder**—U. S. Eng., 1 and Douglas Sts. N.W., Wash., D. C., barracks, day rooms, officers quarters, mess halls, store rooms, grading, drainage, gasoline storage, etc. for 22 Observation Squadron, on U. S. Army Airport project, to Nelson Bros. and L. U. Eaton, Triad Bldg., Fidelity Bank & Trust Bldg., Baton Rouge. Est. **$1,190,173.** CD 5/14—ENR 5/22.

†**Mass., Falmouth**—Con. Q.M., Camp Edward, 2 brick theatres, to T. W. Cunningham, 540 Main St., Winchester. **$147,900.** Bids 6/26. CD 4/17—ENR 4/24.

†**Mass., Watertown**—Commanding Officer, Watertown Arsenal, storehouse, to E. J. Rappoli Co., Inc., 515 Massachusetts Ave., Cambridge. **$787,000.** CD 6/27—ENR 7/3.

†**Miss., Hattiesburg**—Con. Q.M., Camp Shelby, 7 ordnance warehouses, ordnance repair shop and boiler house, to Burkes Bros., Stern Bldg., New Orleans, La. **$93,624.** CD 4/16—ENR 4/24.

†**Miss., Hattiesburg**—Con. Q.M., Camp Shelby, 26 day rooms and 2 officers mess, to Southeastern Mfg. Co., Tuscaloosa, Ala., **$187,000.**

†**Mo., Rolla**—War Dpt., 20 St. and Constitution Ave. N. W., Wash., D. C., 65 buildings, containing 250 units to house married enlisted personnel, Fort Leonard Wood, to Swenson Constr. Co., Victor Bldg., Kansas City, **$1,367,000.** Awarded 7/11.

†**Neb., Omaha**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., electrical contract for Fort Crook Bomber Plant, to Miller Electrical Service, Insurance Bldg. Annex, **$178,745** *** installing 2 boilers, to Wickes Boiler Co., 512 N. Water St., Saginaw, Mich., **$32,984** *** heating, ventilating, plumbing, fire protection and air conditioning of auxiliary buildings, to Raisler Corp., 129 Amsterdam Ave., New York, N. Y., **$202,700.** Grand total $414,339.

†**O., Cleveland**—Jack & Heintz, Inc., c/o Wm. Jack, Hanna Bldg., 2 story, 100x212 ft., brick, steel, concrete factory and office building, to Hadlock Krill Co., 2169 E. 33 St. Est. **$300,000.** Defense Plant Corp. will finance. Awarded 7/11.

†**O., Columbus**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., 9 closed sheds, etc., to Skilken Bros., Inc., 44 East Broad St. **$539,979.** Awarded 6/27.

O., Columbus—Bd. Educ., 270 E. State St., general contract 2 story, 2 wing, brick, stone McKinley Jr. High School addn., Duxberry Ave., Linden Sect., to C. M. Barr Co., 299 S. Front St., **$231,568;** heating and ventilating, to W. R. Rhoton Co., 5915 Bonna St., Cleveland, **$59,617.** Bids 6/30. CD 6/17—ENR 6/19.

†**Okla., Fort Sill**—Con. Q.M., quarters, stables and utilities, to Tankersley Constr. Co. and M. E. Trapp Assoc., Ramsey Tower, Oklahoma City. **$456,000.**

†**Pa., Corry**—Pub. Bldgs. Administration, Wash., D. C., 100 homes, Columbus Ave. between N. Center and Wayne Sts., to J. P. Snyder Constr. Co., Inc., 263 Saranac Ave., Buffalo, N. Y. **$348,694.**

†**Pa., Dravosburg**—Allegheny County Housing Auth., 201 County Office Bldg., Pittsburgh, Pa., 250 family defense housing, 36181X, for FWA, to Sherry Richards Co., 201 Wells Ave., Chicago, Ill. **$1,019,832.** Bids 7/10. CD 7/16—ENR 7/3.

†**Pa., Erie**—General Electric Co., 1 River Rd., Schenectady, N. Y., plant for manufacture turbines, Lawrence Park Twp., to United Engineers & Constructors, Inc., 1401 Arch St., Phila. Est., incl. equip. **$10,000,000.** Defense Plant Corp. will finance. CD 7/1—ENR 7/10.

†**Pa., Lester**—Westinghouse Electric & Mfg. Co., Union Bank Bldg., Pittsburgh, plant for manufacture Naval equip., to United Engineers & Constructors, Inc., 1401 Arch St., Phila. **$5,830,000** for land and buildings, **$16,170,000** for equip. Total est. $22,000,000. Defense Plant Corp. will finance. CD 7/17.

†**Pa., Middletown**—U. S. Eng., 332 Post Office Bldg., Baltimore, Md., 72x200 ft. equip. repair building, utilities, to Gaw Constr. Co., 402 Market St., Phila. **$238,000.** Bids 5/29. CD 5/27.

†**Pa., Munhall**—Allegheny County Housing Auth., 201 County Office Bldg., Pittsburgh, 400 family defense housing, Pa. 36131X, to Ring Constr. Co., 1345 Hennepin Ave., Minneapolis, Minn. **$1,666,600.** Bids 7/3. CD 7/6 ENR 6/26.

†**Pa., Pottstown** — Jacob Aircraft Engine Co., design and construction engine factory, to Ford, Bacon & Davis, 39 Bway., New York. N. Y. Est. incl. equip. **$10,000,000.** Defense Plant Corp. will finance.

†**S. C., Spartanburg** — Spartanburg Housing Auth., housing, for USHA., to P. S. West Constr. Co., Statesville, N. C., **$368,500.** CD 6/12—ENR 6/19.

†**Tex., Brownwood**—Con. Q.M., Camp Bowie, officers' mess, mess halls, recreation buildings, motor repair shop, oil storage house, etc., Camp Bowie, to H. C. Dyer, Dallas Gas Bldg., Dallas. **$230,600.** Bids 6/29. CD 6/5—ENR 6/12.

Tex., Cuero—J. T. Newman, mayor, exten., imprv. power plant unit. **WPA.** Voted bonds. Total est. **$69,000.** C. E. Miles, Cuero, engr.

Tex., Garrison—M. Irwin, mayor, power plant, generating unit distr. lines, poles, motors, etc., to Southern Engine & Pump Co., 900 St. Charles St., Houston. Est. **$40,000.** Freese & Nichols, Capps Bldg., Fort Worth, engrs.

Tex., Lometo—Bd. Educ., school, **WPA.** **$150,000.**

†**Tex., Mineral Wells**—Federal Works Agency, 7 and D Sts. S.W., Wash., D. C., 100 prefabricated houses, Camp Wolters, to Houston Ready-Cut Housing Co., 3601 Polk St., Houston, **$238,388.**

†**Tex., San Antonio**—U. S. Eng., Federal Bldg., Galveston, buildings for aviation school, 15 barracks, 4 day rooms, mess, cafeteria, administration building, 15 school buildings, housing for colored troops, incl. 2 barracks, day room, supply room, mess, miscellaneous buildings, Kelly Field, to C. L. Browning, Jr., Builders Exch. Bldg., San Antonio. **$498,152.** CD 7/16—ENR 7/24.

†**Tex., San Antonio**—U. S. Eng., Federal Bldg., Galveston, 1 story, 96x480 ft. depot supply and shop building, Duncan Field, to Hill & Combs, 321 Melrose St. **$216,490.** Awarded 7/16. CD 6/11—ENR 6/26.

†**Utah, Ogden**—U. S. Eng., 751 S. Figueroa St., Los Angeles, Calif., 102x222 ft., brick, concrete radio repair and signal corps warehouse, to John H. Haslam, 4212 Highland Dr., Salt Lake City. **$168,102.** Bids 7/8. CD 7/1.

Utah, St. George—Diesel and generator equip. for municipal power plant, to Worthington Pump & Machine Co., 118 Motor Ave., Salt Lake City, **$93,210;** hydraulic equip., to Lang Equipment Co., 267 W. 1 South St., Salt Lake City, **$33,000.** Total est. $300,000. Harry Bletzacker, 4901 South State St., Murray, engr. CD 6/5.

†**Utah, Salt Lake City**—War Dpt., 20 St. and Constitution Ave. N.W., Wash., D. C., munitions plant, to Broderick & Gordon, Colorado Springs, Colo., **$30,000,000,** cost plus basis. CD 6/16—ENR 6/19.

†**Wash., Spokane**—Pub. Bldgs. Administration, Wash., D. C., 160 homes, near Sunset Airport, to Benjamin H. Sheldon, 2022 W. 3 St. **$498,800.** Bids 6/30. CD 7/3—ENR 7/10.

†**Que., St. Malo**—Dpt. Munitions & Supply, Ottawa, Ont., exten. former Canadian National Ry. Shops, to Anglin-Norcross, Quebec Limited, 892 Sherbrooke St. W., Montreal. Est. **$500,000.**

COMMERCIAL BUILDINGS

PROPOSED WORK

Calif., Calabasas — Motion Picture Relief Fund of America, Inc., 6902 Santa Monica Blvd., Los Angeles, plans by W. L. Pereira, c/o Paramount Studios, 5451 Marathon St., Los Angeles, housing accommodations, theatre, medical, dental therapeutic clinic, administration building, directors' residence, etc., 45 acre site, Ventura Blvd. and Mulholland Hy. $500,000.

Ind., Indianapolis—H. L. Horton Co., 2154 N. Sherman Dr. additional 60 or more homes, $300,000 or more.

Ind., Indianapolis—St. Paul's Episcopal Church, W. B. Burrows, pastor, 23 W. New York St., sketches by McGuire & Shook, 1401 Fletcher Trust Bldg., 2 story, rein.-con., structural steel, stone church, 61 and Meridian Sts. $250,000.

Ia., Grinnell—Grinnell College soon lets contract mens dormitory. $150,000. Proudfoot, Rawson, Brooks & Borg, 815 Hubbell Bldg., Des Moines, archts.

Ia., Ottumwa—The Dain Co., H. Moschel, genl. mgr., Ottumwa, Ia., 5 story, warehouse office and display building. $50,000.

COMMERCIAL BLDGS. (Proposed Work, Cont'd.)

La., New Orleans—At office Jones, Roessle & Olschner, archts., Maison Blanche Bldg., rejected bids July 14 brick, steel, drive-in supermarket and grocery building, Washington Ave., S. Jefferson Davis Parkway, for Capitol Stores, Inc., 2654 St. Louis St. CD 7/11—ENR 7/17.

Minn., St. Paul—W. M. Ingemann, archt., 210 Anchor Bldg., soon lets contract 2 to 5 story, 76x117 ft., rein.-con., brick, library, Grand and Snelling Aves., for Macalester College, C. J. Turck, pres., 1600 Grand Ave. Over $150,000.

Mo., St. Louis—Owner, c/o L. O. Goedde, $100 Washington Ave., 2 or 3 story and bsmnt., brick, concrete, steel department store, on 113x147 ft. site, Hamilton and Easton Aves. Approx. $150,000.

N. J., Linden—Cameron Assoc., 790 Broad St., Newark, plans by S. L. Klein, 790 Broad St., Newark, residential development, forty 1½ story, bsmnt., 25x40 ft. homes, Wood Ave. $180,000.

N. J., Springfield—Chesas Constr. Co., 227 Millburn Ave., plans by Schmidlin & McMurray, 982 Stuyvesant Ave., Union, homes development, nineteen 2½ story, bsmnt. homes, Springbrook Park. $152,000.

★**N. Y., Mt. Vernon**—Syndicate, c/o Warner's Bros., 321 W. 44 St., New York, 2 and 3 story garden apartments, 20 acre site. $2,000,000. Holland & White, 101 Park Ave., New York, archts.

N. Y., New York—Redemptionist Fathers of New York, 526 59 St., Brooklyn, plans by Eggers & Higgins, 542 5 Ave., altering, 3 story, brick school and 2 story roof addn., 376 E. 151 St. $150,000.

N. Y., New York—Corporation of Roman Catholic Church of Good Shepherd of N. Y., 425 Madison Ave., plans by P. Monaghan, c/o owner, altering 3 story, school, 110 Cooper St. $200,000.

N. Y., Queens Village—Little Sisters of Poor, Bushwick and De Kalb Aves., Brooklyn, soon lets contract 4 story convent, 110-39 Springfield Blvd. $150,000. H. V. Murphy, 1 Hanson Pl., Brooklyn, archt. CD 7/10—ENR 7/17.

O., Canton—Ohio Bell Telephone Co., 705 Huron Rd., Cleveland, top story addn., etc. $150,000.

Pa., Coatesville—Owner, c/o L. S. Chestern, Jr., Wayne, residences. Over $250,000.

★**Pa., Overbrook**—Owner, c/o S. Schifter, 2210 Darby Rd., South Ardmore, plans by H. E. Williams, Garrett Rd., Upper Darby, 150 residences. Over $1,000,000.

Pa., Tarentum—Allegheny Valley Hospital, J. W. Stevenson, supt., Carlisle St., 3 story, bsmnt., 75x100 ft. hospital addn. $200,000 with equip.

★**R. I., Warwick**—Palestine Temple of the Shrine, c/o Jackson, Robertson & Adams, archts., 1216 Turks Head Bldg., Providence, plans ready in about 1 month, 3 story, bsmnt., concrete, brick, stone hospital, Buttonwoods Sect. $500,000. Office of Hollis French, 210 So. St., Boston, engr. CD 7/14—ENR 7/17.

BIDS ASKED

N. Y., Far Rockaway—Brooklyn Jewish Home for Convalescents, Inc., 130 Clinton St., Brooklyn, 1 story convalescent home, 601 Beach 9 St. $175,000. M. N. Weinstein, 93 Court St., Brooklyn, archt. CD 7/10—ENR 7/17.

Tex., Dallas—Mercantile National Bank, c/o R. L. Thornton, pres., Magnolia Bldg. (invitation only), 25 story, 120x200 ft., rein.-con., steel office, concrete fdn., Main, Ervay and Commerce Sts. W. Ahlschlager, 1000 Southland Life Bldg., archt. Gill Bennett, Great Natl. Life Bldg., consult. archts. CD 2/19—ENR 2/27.

CONTRACTS AWARDED

★**Calif., Downey**—Owner, c/o C. M. Aldrich, archt., 1834 Dawson Ave., Long Beach, 300 to 400 five room frame, stucco dwellings, in new tract, near here, to S. V. Hunsaker, 6172 Lewis Ave., Long Beach. Est. over $500,000.

★**Calif., Los Angeles**—Hamilton Holmes, 201 S. Atlantic Blvd., Los Angeles, constructing between 200 and 300 dwellings, Bella Vista Dist., 3 and Atlantic Sts. Owner builds. Over $500,000. W. Woollett, 816 Architects Bldg., Los Angeles, archt.

Calif., San Francisco—Montrose Building Co., Russ Bldg., 22 one story, bsmnt., wood frame dwellings (1st unit), to L. Cohn, 605 Market St. Total expenditure over $200,000.

Calif., Vallejo—J. Jansen, 3833 Franklin Blvd., Sacramento, thirty 1 story homes, vicinity Mare Island Navy Yard, day labor. $150,000 or more.

Conn., Bristol—Bristol Housing Corp., A. J. Koziell, 42 Grove St., residential development, 100 homes, Stafford Ave., to Del Vail Constr. Corp., Scarsdale, N. Y., $460,000.

Conn., Milford—Cameron Constr. Co., residential development, 30 homes, Golf St. Owner builds. $150,000. FHA. H. E. Koerner, 83 Fairfield Ave., Bridgeport, archt.

Conn., Stamford—Bullard Constr. Co., Puritan Rd., Rye, N. Y., 10 colonial homes, Strawberry Hill Ave. Owner builds. $7,500 ea. Total est. $150,000.

Ill., Chicago—American Medical Assn., 535 N. Dearborn St., 3 story office building addn., to Geo. A. Fuller Co., 111 W. Washington St. Est. $200,000. Holabird & Root, 333 N. Michigan Ave., archts.

Ill., Oak Lawn—Lucas Theatre Co., 220 S. State St., Chicago, Camera Theatre, 95 and Cicero Sts., to H. Kaplan & Co., 751 N. Paulina St., Chicago. Est. $175,000. CD 7/2—ENR 7/10.

La., Leesville—Southern Bell Telephone & Telegraph Co., c/o F. M. Craft, ch. engr., Hurt Bldg., Atlanta, Ga., 2 story, bsmnt., brick veneer, steel sash telephone exchange, concrete fdn., to Murray Werner Co., Shreveport. CD 7/15—ENR 7/17.

Me., Portland—W. T. Grant Co., 1441 Bway, New York, 2 story, bsmnt, concrete, brick, steel store addn. to J. M. and C. J. Buckley Co., 45 Milk Street, Boston, Mass., approx. $150,000. E. E. Seelye, 101 Park Ave., New York, eng.

N. J., East Orange—Rogers Bldg. Co., 25 Van Velsor Pl., 2 story, bsmnt., brick garden type apartments, 4 Ave., separate contracts. $150,000. Schmidlin & McMurray, 982 Stuyvesant Ave., Union, archts.

N. Y., Brooklyn—Corbin Gardens, Inc., 50 Court St., 6 story, 80x302 ft. apartment, 142-76 Corbin Pl., separate contracts. $360,000. Seelig & Finkelstein, 153 Pierrepont St., archts. CD 6/9—ENR 7/17.

N. Y., Buffalo—Buffalo Savings Bank, Main and Genesee Sts., office bldg., to Geo. W. Walker, Inc., Elmwood Ave. Est. $400,000. Backus, Crane & Love, Delaware Ave., archts.

N. Y., Forest Hills—Normandie Apartments, Inc., 44 Court St., Brooklyn, 6 story apartment, 106-15 Queens Blvd., separate contracts. $490,000. M. Rothstein, 391 Fulton St., Brooklyn, archt. CD 7/10—ENR 7/17.

N. Y., Forest Hills—Fenton Apartments, Inc., 44 Court St., Brooklyn, 6 story apartment, 69-40 Yellowstone Blvd., separate contracts. $480,000. M. Rothstein, 391 Fulton St., Brooklyn, archt. CD 7/10—ENR 7/17.

Pa., Erie—C. J. Schwartz, 2113 Sassafras St., 50 dwellings Peach St. exten. Owner builds. $225,000-$250,000. CD 7/8—ENR 7/10.

Pa., Phila.—S. B. Palley, 6655 McCallom St., residences. Owner builds. Over $150,000. CD 4/2—ENR 4/17.

Pa., Phila.—Boardman-Smith Corp., 1322 Airdrie St., 58 residences. Owner builds. Over $150,000. C. H. Fries, 6701 N. Broad St., archt. CD 6/5—ENR 6/12.

INDUSTRIAL BUILDINGS

PROPOSED WORK

Calif., Avon — PLANT — Tidewater-Associated Oil Co., Avon, plant and office unit addns. Over $40,000.

Calif., Berkeley—PLANT—Cutter Laboratories, 4 and Parker Sts., plans by F. E. Barton, Crocker Bldg., San Francisco, plant addns. $45,000.

Calif., Los Angeles — FACTORY — Xint Spanish Food Co., 1316 Las Vegas St., plans by P. M. Baer & Son, 1627 Hillhurst Ave., reinforced brick, concrete factory Valley Blvd., east of Soto St. Over 40,000.

Calif., Los Angeles — WAREHOUSE — May Co., 8 St. and Bway., soon lets contract rein.-con. flat slab and slab and beam frame warehouse, Jefferson Blvd. and Hope St. Over $40,000. A. C. Martin, 233 Higgins Bldg., archt. Holmes & Narver, 639 S. Spring St., engr. CD 6/16—ENR 6/19.

Calif., Richmond — PLANT — National Oil Products Co., Essex St., Harrison, N. J., (1st unit) chemical and vitamin production plant. $100,000 or more.

Calif., San Francisco—WAREHOUSE—Salvation Army, 115 Valencia St., plans being completed by D. D. Stone, 381 Bush St., rein.-con. warehouse. $40,000 or more.

Colo., Denver—PLANT—Winter-Weiss Co., 2201 Blake St., plans by E. C. Morris, Midland Savings Bldg., 1 story, 50x380 ft., concrete, steel manufacturing plant addn., 2201 Blake St. $60,000.

★**Conn., Danbury**—FACTORY—Plaskon Co., Danbury, will not construct 3 story factory. $1,000,000. Project abandoned. Lockwood Greene Engineers, Inc., 30 Rockefeller Plaza, New York, N. Y., archts. CD 5/13—ENR 5/15.

Conn., Hamden — POWER PLANT — Acme Wire Co., 1255 Dixwell Ave., bids in August, brick, steel, concrete power plant, boiler and equip. $65,000. Westcott & Mapes, Inc., 139 Orange St., engrs.

Conn., Hartford—GARAGE — Southern New England Telephone Co., 227 Church St., New Haven, bids early in August, 1 story, 70x180 ft., brick, steel, concrete garage, Albany Ave. $55,000. R. W. Foote, 157 Church St., New Haven, engr. CD 6/24—ENR 6/26.

Conn., Waterbury—WAREHOUSE, etc. — J. E. Smith & Co., Inc., 65 Benedict St., plans by H. T. Moeckel, 35 Hillcrest Ave., Naugatuck, 1 and 2 story, 130x190 ft., brick, steel, concrete warehouse, garage, South Leonard St. $110,000.

Ga., Atlanta—WAREHOUSE—Consolidated Realty Co., Chamber of Commerce Bldg., Atlanta, 1 story, 315x350 ft. parts warehouse building, Murphy Ave. S.W. $250,000.

Ind., Indianapolis — FACTORY — Erbrich Products Co., 1120 E. 32 St., J. H. Erbrich, pres., rebuilding factory buildings, destroyed by fire. Over $40,000 with equip.

Ia., Council Bluffs—WAREHOUSE—Union Pacific R. R. Co., B. H. Prater, ch. engr., 1416 Dodge St., Omaha. [illegible] Steel ware-house and office building [illegible] change trackage. $130,000

Ia., Waterloo — FACTORY — [illegible] Corp., N. L. Etten, mgr., Waterloo, [illegible] ft., brick, concrete, steel factory. $75,000

★**Ky., Danville**—POWER PLANT—East Ky. Rural Electric Co-operative Corp., J. V. Swain, supt., steam operated generating plant, near here. $2,500,000. P. M. Sullivan, Gallatin, Tenn., engr.

Md., Towson — PLANT — Hendix Aviation Corp., J. P. Friez & Sons Div., Central Ave. and Baltimore St., Baltimore, plans by Austin Co., 19 Rector St., New York, N. Y., 2 story, 130x325 ft., structural steel frame, [illegible] brick factory, concrete fdns. $200,000

Mich., Ecorse (br. Detroit)—MILL—Great Lakes Steel Corp., Ecorse, steel, concrete, steel mill addn., incl. Bessemer converter and [illegible] pansion open hearth furnaces

Nev., Reno—PLANT—Reno Fuel, Ice & Storage Co., Reno, ice manufacturing plant and cold storage unit. Over $40,000.

N. Y., Brooklyn—WAREHOUSE—Brille Mfg. Co., 205 Water St., plans by S. Goldstone, 285 Madison Ave., New York, altering 4 story, warehouse and office, 183-85 Plymouth St. $40,000.

N. Y., Brooklyn—GARAGE—Berdean Holding Corp., 821 Bergen St., plans by S. H. Kitzler, 186 Joralemon St., altering garage, bakery and loading room, 817 Bergen St. $40,000.

N. Y., Long Island City—STORAGE, etc.—Long Island R. R. Co., Penna. Sta., New York, C. E. Adams, ch. engr., plans by F. Auryeneen, c/o owner, 1 story, storage and freight office, 47-27 Arch St. $40,000

N. Y., New York — TOWER — Consolidated Edison Co. of New York, Inc., 4 Irving Pl., 3 story ash elevator tower, 427 E. 25 St. $40,000. T. R. Galloway, c/o owner, engr.

N. Y., North Tonawanda—PLANT—Hoffman Bolt Co., East Ave., Buffalo, soon lets contract plant addn. Over $40,000. Bley & Lyman, 560 Delaware Ave., Buffalo, archts. and engrs.

O., Cuyahoga Falls—PLANT—Falls Screw Products Co., Cuyahoga Falls, D. W. Norman, pres., bids in 30 days, 1 story, brick, concrete plant addn. $40,000.

N. Y., Olean—BUS TERMINAL—J. Morgnano, Olean, bus terminal and garage, N. Barry St. $40,000 with equip.

N. Y., Syracuse—PLANT—Texas Co., 135 E. 42 St., New York, bulk oil storage plant, $85,000.

N. Y., Tonawanda — PLANT — Chevrolet Motor & Axle Div., General Motors Corp., Grand Blvd., Detroit, Mich., plans by Albert Kahn & Associates, 345 New Center Bldg., Detroit, Mich., motor testing building. Over $40,000.

O., Cleveland — STRIP MILL — American Steel & Wire Co., F. E. Chesney, purch. agt., Rockefeller Bldg., soon lets contract strip mill, annealing building. $150,000. G. Rose, c/o owner, engr.

O., Cuyahoga Falls—PLANT—Falls Screw Products Co., D. Norman, pres., Cuyahoga Falls, 1 story plant addn. $40,000 or more with equip.

O., East Cleveland—REPAIR SHOP—Cleveland Ry. Co., A. C. Kennedy, purch agt., soon lets contract 1 story, 50x150 ft. brick, steel repair shop addn. $50,000. W. Watson & Assoc., 4614 Prospect Ave., engr.

Ore., Portland—SUBSTATION EQUIPMENT REMOVAL, etc.—Portland General Electric Co., Electric Bldg., dismanteling, removal power equip. from P. G. E. downtown Portland substation and switch over to Northwestern Electric Co. underground lines, remodeling premises of substation into retail stores. $175,000. CD 1/17—ENR 1/23

Pa., Bath—WAREHOUSE, etc.—A. S. Lehr, Bath, produce warehouse and truck garage, S. Walnut St. $40,000 with equip.

Pa., Erie—FACTORY—Hays Mfg. Co., W. H. Forster, genl. mgr., 801 W. 12 St., bids soon 1 story, 50x200 ft., structural steel, concrete block factory. $40,000. H. Nelson, 209 Hayes Bldg., engr.

Pa., Erie—PLANT—J. A. Zurn Mfg. Co., Inc., M. A. Zurn, vice pres., in charge, 1900 Pittsburgh Ave., plumbing supply manufacturing plant addn., Pittsburgh Ave. Over $40,000.

★**S. C., Charleston**—POWER PLANT—S. C. Power Co., 141 Meeting St., 25,000 kw steam plant, near here, with Federal Power Comm. aid. $2,500,000. Contemplated for 1943.

Tex., Bowie — PLANT — Texas Chemurgic Industries, Inc., c/o W. C. Witt, pres., 1100 Southland Life Annex Bldg., Dallas, sweet potato plant for manufacture of starch, etc. $100,000.

Tex., Houston — WAREHOUSE — Crescent Realty Co., c/o Petroleum Bldg., plans by Salisbury & McHale, 2017 W. Gray St., warehouse. $100,000.

Tex., Houston — WAREHOUSE — Rite-Way Stores, 33 Artesian St., c/o W. S. Stone, plans by Stone & Chase, 911 Stuart Ave., and soon takes bids, 1 story, mezzanine, concrete, shell stone warehouse. $40,000

★**Tex., New Braunfels**—POWER PLANT—San Antonio Pub. Serv. Co., N. St. Mary's St., San Antonio, expanding electric power plant. $4,000,000.

★**Alta., Edmonton** — PLANT — Allward & Gouinlock, archts., 57 Bloor St. W., Toronto, Ont., bids soon plant addns. for Mc-

INDUSTRIAL BLDGS. (Proposed Work, Cont'd.)

Kenzie Aircraft Ltd. & Dominion Govt., Ottawa, Ont. $1,500,000, incl. equip.

Ont., Peterboro — PLANT — J. H. Vernor, mgr., Western Clock Co. Ltd., Hunter St., soon lets contract plant exten. $90,000. E. A. Cross, 991 Bay St., Toronto, consult. engr.

Ont., Sudbury—FOUNDRY—P. J. O'Gorman, archt., 4 Durham St. N., and C. A. Durkee, c/o owner, soon lets contract exten., altering 2 story, 41x100 ft., steel, concrete, clay tile, concrete block foundry, Lorne and Victoria Sts., for Sudbury Const. Co. Ltd., 139 Lorne St. About $45,000.

BIDS ASKED

Calif., San Francisco—FACTORY — Dreamland Bedding Co., 534 Bayshore Blvd., 1 story, 75x100 ft., rein.-con. factory addn. $40,000 or more. H. C. Baumann, 251 Kearny St., archt.

Bids Asked

★**Calif., San Pedro** — PLANT — Los Angeles Shipbuilding Co., San Pedro (selected list bidders), mold loft and warehouse building, West Basin. $800,000. E. T. Heitschmidt, 407 Subway Terminal Bldg., Los Angeles, archt. R. E. Jeffers, 603 Architects Bldg., Los Angeles, engr.

Mo., St. Louis — FACTORY — American Smelting & Refining Co. (Federated Metals Div.), 4041 Park Ave., 1 story, 82x120 ft., brick, steel trusses, warehouse addn., rein.-con. fdn. Murphy & Wischmeyer, archts., and N. Campbell, engr., both Bd. Educ. Bldg., 911 Locust St.

N. Y., Jamestown—PLANT—Rane Tool Co., Inc., 17 Ross St., 1 story, 55x85 ft. plant addn. $40,000 with equip.

★**Wyo., Cheyenne** — RAILROAD SHOPS — Union Pacific R.R. Co., B. H. Prater, ch. engr., 1416 Dodge St., Omaha, Neb., shop buildings. $500,000. CD 6/15—ENR 7/17.

CONTRACTS AWARDED

Calif., Alameda—FACTORY—Miss Saylor's Chocolate, Inc., 2420 Encinal Ave., 2 story, rein.-con. factory, to Daley Bros., 426 Bryant St., San Francisco, $58,000. J. L. Conrich, 188 Beaumont St., San Francisco, archt.

Calif., Berkeley—FACTORY—Grove Regulator Co., 1250 67 St., Oakland, 1 story, concrete factory, to W. K. Owen, 1501 Powell St., $41,500.

Calif., Beverly Hills—BAKERY—Continental Baking Co., rein.-con., reinforced brick bakery, 9340 Santa Monica Blvd., to Wm. P. Neil Co., 4814 Loma Vista Ave., Los Angeles. $48,000. H. I. Miller, 4814 Loma Vista Ave., Los Angeles, archt.

Calif., Los Angeles—INDUSTRIAL—L. A. Drug Co., 1136 San Julian St., 3 story, 50x150 ft., rein.-con., brick addn. to industrial building, 1140 San Julian St., to Kemp Bros., 2900 Hyde Park Blvd. Approx. $40,000. Hunt & Chambers, 408 S. Spring St., archts.

Calif., Oakland — WAREHOUSE — Sunset-McKee Salesbook Co., 2101 Livingston St., 1 story, rein.-con. warehouse, to C. H. Thrams, 28 Home Pl. W., $56,000. W. H. Ellison, Pacific Bldg., San Francisco, engr.

Calif., San Diego—WAREHOUSE—American Can Co., 4815 Santa Fe Ave., Los Angeles, warehouse, waterfront between Crosby and Colton Sts., to Engineers, Ltd., 605 W. Olympic Blvd., Los Angeles. Approx. $70,000.

Calif., Vernon — WAREHOUSE — Central Mfg. Dist., 1 story, 174x300 ft. warehouse, to Wm. P. Neil Co., 4814 Loma Vista Ave., Gifford St. and Fruitland Ave. $65,000. H. Miller, 4814 Loma Vista St., archt.

Conn., Ansonia — FACTORY — Farrel-Birmingham Co., Inc., 30 Main St., 2 story, brick, steel, concrete factory addn., to H. G. Bengtson & Co., 303 Wakelee Ave. Est. $50,000. CD 7/7—ENR 7/10.

Conn., East Hartford—STORAGE—First National Stores, Inc., Oakland Ave., 1 story, 96x200 ft., steel, rein.-con. storage bldg., Oakland Ave., to G. Cudemo, Inc., 983 Main St., Hartford. Est. $40,000. G. Zunner, 182 High Street, Hartford, archt.

Ill., Chicago—FACTORY—Poray, Inc., 3572 Armitage Ave., 1 story factory addn., 3403 W. Grand Ave., to C. Wanen, 5377 Bowmanville Ave. Est. $40,000. E. E. Redderson, 703 W. Buena Ave., archt.

Ill., Chicago—TRUCK TERMINAL—Denver-Chicago Trucking Co., 333 S. Iron St., 1 story, 200x400 ft. truck terminal, 31 and Ashland Sts., to B-W Constr. Co., 307 N. Michigan Ave. Est. $150,000. M. D. Kallsher, 520 N. Michigan Ave., archt.

Ill., Chicago—FACTORY—Jel-Sert Co., 1020 S. Central Park Ave., 1 story food products factory, to Clearing Industrial District, 6455 S. Central Ave. Est. $75,000. J. S. Cromelin, c/o contractor, archt.

Ill., Chicago—FACTORY—Powers Regulator Co., 2720 Greenview Ave., 2 story factory addn., to J. D. Froelich, 189 W. Madison St. Est. $50,000. CD 6/3—ENR 6/5.

Ill., Moline—FACTORY—Deere & Co., Moline, factory and office building at general plant, to Axel Carlson Co., Moline, $40,000.

Ind., Anderson—DAIRY PLANT—East Side Jersey Dairy Co., 1011 Central Ave., dairy plant, Baldwin Ave. and Shadyside Dr., North Anderson, to Foster Eng. Co., Ltd., 726 Indiana Pythian Bldg., Indianapolis, cost plus fee basis. Est. $45,000 or more with equip.

Ia., Iowa Falls — PLANT — Ralston-Purina Co., 835 S. 8 St., St. Louis, Mo., soybeam processing plant, to Jones & Hettelsater Const. Co., Mutual Bldg., Kansas City, Mo., $325,000. CD 7/15—ENR 7/17.

Ky., Louisville—PLANT—Reliance Varnish Co., 915 E. Kentucky St., plant, to J. D. Jennings, 235 E. Gaulbert St.; heating and plumbing, to F. S. Scharbein & Sons, 129 S. 6 St. D. X. Murphy & Bro., Louisville Trust Bldg., archts.

Md., Baltimore—WAREHOUSE and FACTORY—S. Shapiro & Sons, 1600 Union Ave., 1 story, 120x340 ft., brick, steel warehouse and factory addn., concrete fdn., to E. Levy, 2309 Sulgrave Ave. $75,000. Bids 6/17. CD 6/13—ENR 6/19.

Md., Baltimore—WAREHOUSES—Procter & Gamble Co., 1000 Nicholson St., design and construction, 3 warehouses, to H. K. Ferguson & Co., 25 W. 43 St., New York, N. Y., $100,000. CD 6/13—ENR 6/19.

Mass., Hudson—TURBINE—Hudson Worsted Co., 43 Broad St., 2 story, 33x38 ft., concrete, brick turbine bldg. and pump room, to B. A. Wade Co., 336 Main St., Fitchburg. Approx. $40,000 incl. equip. A. B. Reed, 88 Broad St., Boston, engr.

Mass., Norwood — FACTORY — Norwood Stamping Co., Inc., 19 Press Ave., 1 story, 60x155 ft., brick, concrete factory, Press Ave. $40,000. Owner builds. H. Korslund, 153 Nanatan St., archt.

Minn., Minneapolis — FACTORY — Minneapolis-Moline Power Implement Co., Hopkins, general contract superstructure 2 story, 140x327 ft., brick, rein.-con. factory, 2854 Minnehaha Ave., to E. M. Ganley Co., 2922 Oakland Ave. $150,000. CD 5/22—ENR 5/29.

Mo., Sugar Creek—BULK STATION, etc.—Standard Oil Co., Sugar Creek, bulk station, loading dock, refinery plant, to James Constr. Co., Minnesota Mutual Life Bldg., St. Paul. Est. $65,000. Larson & Erickson, c/o owner, engrs. Awarded 7/14.

N. J., Bound Brook—SUBSTATION, etc.—Bakelite Corp., River Rd., brick substation, switch house, manholes, conduit lines at plant, River Rd., to W. L. Blanshard Co., 45 Poineer St., Newark, $50,000. Francisco & Jacobus, 511 5 Ave., N. Y., archts.

N. J., Camden — WAREHOUSE — Radio Corp. of America, 30 Rockefeller Plaza, New York, 1 story, 300x650 ft. frame warehouse, to H. K. Ferguson Co., 25 W. 43 St., New York.

N. J., Jersey City — WAREHOUSE — Balcom Realty Co., 105 S. 12 St., Phila., Pa., 1 story brick, steel grocery warehouse, Larch Ave., to C. A. Hunt Eng. Co., 485 Fort Lee Rd., Teaneck, $65,000. Hudson Wholesale Grocery Co., 123 1 St., lessee. Ballinger Co., 105 S 12 St., Phila., Pa., engr. and archt.

N. Y., Brooklyn—STORAGE WAREHOUSE, etc.—W. Dorf, 178-01 Liberty Ave., 2 story storage warehouse and office 178-14 Liberty Ave., separate contracts. $70,000. J. H. Burmeister, 155-31 Jamaica Ave., archt. CD 6/8—ENR 7/10.

N. Y., Brooklyn—GARAGE—S. Singer, 87 Livonia Ave., 6 story, 107x120 ft. apartment, 429 Ocean Parkway, separate contracts. $215,000. O. I. Silverstone, 153 Pierrepont St., archt. CD 6/26—ENR 7/3.

N. Y., Canastota — PLANT — Queensboro Farm Dairy Products Co., 35-13 41 St., Long Island City, 2 story, 150x200 ft. pasteurizing plant, to Adelson Contg. Co. Inc., 342 Madison Ave., New York. Est. $75,000. W. H. Fuhrer, 505 5 Ave., New York, archt.

N. Y., Lockport—PLANT—Harrison Radiator Corp., Washburn St., plant addn., to Wm. B. Eaton Constr. Co., Inc., Olson Bldg. Est. $45,000. CD 7/2—ENR 7/10.

N. Y., Long Island City — FACTORY — Forty Fourth Road Factory Corp., c/o J. M. Berlinger, archt., 17 E. 49 St., New York, 2 story, 25x100 ft. factory, 11-25 44 Rd., to Wheeler Eng. Co., 369 Lexington Ave., New York. Est. $40,000. CD 5/5—ENR 5/8.

N. Y., Niagara Falls — FOUNDRY, etc. — Frontier Bronze Corp., 818 Elmwood Ave., 2 story, 72x173 ft. foundry and warehouse, to Gaylord Guenther & Co., Inc., 611 8 St. Est. $65,000. CD 7/2—ENR 7/10.

N. Y., Niagara Falls — PLANT — R & H Chemical Dpt. of E. I. DuPont de Nemours & Co., Inc., Niagara Falls, 2 story, 80x90 ft. plant, to Laur & Mack, Inc., 1400 College Ave. Est. $50,000.

O., Bellefontaine — ROUNDHOUSE — New York Central R. R., G. H. Harris, ch. engr., (lines west of Buffalo) La Salle St. Station, Chicago, Ill., roundhouse, to G. Everett Knowlton & Son, Bellefontaine, $103,000. CD 6/13—ENR 6/19.

O., Cheviot — PLANT — Westwood Planing Mill Co., Beater Ave. and Bridgetown Rd., H. Winkler, vice pres., planing mill plant and warehouse, to E. Moyer, Cheviot, $55,000.

★**O., Cincinnati**—FACTORY, etc.—King Machine Tool Co., Clifton Ave., E. A. Mueller, pres., general contract 1 story, 300x400 ft. factory and office bldg., Paddock Rd. and Tennessee Ave., to Ferro Concrete Constr. Co., 3 and Elm Sts. Est. $500,000. W. C. Pistler, 4 W. 7 St., engr.

O., Cleveland—FACTORY—Tremco Mfg. Co., W. C. Treuhaft, pres., 393 E. 131 St., 1 and 2 story, 166x200 ft., brick, steel factory, to Paugh & Brown Inc., 6007 Euclid Ave. Est. $125,000. Bids 6/30, awarded 7/10. CD 6/30—ENR 7/3.

O., Cleveland—FACTORY—Buckeye Brass & Mfg. Co., D. G. Bundel, pres., 6410 Hawthorne Ave., 1 story, 40x100 ft. brick, steel factory addn., to J. P. Snavely, 2572 Green Rd. Est. $40,000. A. E. Rowe, 1900 Euclid Bldg., engr. Awarded 7/16.

O., Columbus—FACTORY—Jeffrey Mfg. Co., E. First Ave., 72x282 ft., steel frame factory, to E. Elford & Sons, 555 S. Front St., approx. $40,000.

O., Dayton — FREIGHT TERMINAL — Holthaus Transportation Co., 341 S. Jefferson St., two 1 story, 30x80 ft. and 52x150 ft., rein.-con. storage buildings, and freight docks with paved runways, Stainton Ave., to Frank Hill Smith, Inc., 108 E. 3 St., $40,000.

Pa., Albion—FACTORY—Rogers Bros., L. Rogers, pres. in charge, Albion, brick, steel, concrete factory addn. Owner builds $50,000. CD 7/10—ENR 7/17.

Pa., Emporium — WAREHOUSE — Hygrade Sylvania Corp., H. Ward Zimmer, genl. mgr., Emporium, 1 story, brick, concrete, steel warehouse, to F. M. Riegel, Emporium. Est $40,000. S. R. Brown, c/o owner, company engr.

Pa., Harmony—FACTORY—Fox Grinders, Inc., J. B. Bair, treas., 1704 Oliver Bldg., Pittsburgh, 1 story, 50x80 ft., concrete block, wood truss factory, to C. J. Lawrence, Trotwood Acres, Pittsburgh 10. CD 3/10—ENR 3/13.

Pa., Johnsonburg—MILL—Castanea Paper Co., C. G. Gallup, asst. to pres. chg. purchasing, 230 Park Ave., New York, N. Y., 1 story, bsmnt., 70x170 ft., brick, structural steel, sulphide soda and paper mill, to J. Ferguson, 150 Market St., Paterson, N. J.; structural steel, to M. L. Claster & Sons Co., Lock Haven. Est. $125,000. C. Putnam, Lock Haven, company's ch. engr.

R. I., Providence—PLANT—Standard Mchy. Co., 1475 Elmwood Ave., 1 story 80x120 ft., brick, steel, plant addn. and alterations, Elmwood Ave., to A. C. Beals Co., 63 Bassett St. Est. $40,000. Bids 6/27. CD 6/26—ENR 6/30.

★**Tex., Corpus Christi**—ZINC REFINING PLANT—American Smelting & Refining Co., 120 Bway., New York, N. Y., electrolytic zinc refining plant, to Jas. Stewart & Co., 230 Park Row, New York, N. Y., $5,200,000. Aylen Pierson, 313 State St., Perth Amboy, N. J., archt. CD 6/20—ENR 6/26, under BA, and CD 5/9—ENR 5/15, under CA.

Tex., Corsicana — MILK DEPOT — Bordon Co., Waco, cooling, testing and milk depot, force account and sub-contracts. $40,000.

Tex., Plainview — MILL — Denver Alfalfa Milling & Products Co., Plainview, alfalfa process products mill, force account and subcontracts. $80,000.

Tex., San Antonio—LAUNDRY, etc.—G. W. Fadal, 1820 N. New Braunsfel St., 50x100 ft. laundry plant and boiler room, to W. R. Thrailkill, 1816 Delgado St. $40,000. Spillman & Spillman, 402 Hicks Bldg., archts.

Wis., Beloit — FACTORY — Taylor Freezer Corp., 845 5 St., general contract 2 story, 88x160 ft., concrete, steel, brick factory, concrete fdn., to J. E. Ledell, 933 Oak St. F. H. Kemp, 312 Highland Ave., archt.

Wis., Beloit—FACTORY—E. R. Branigan, 435 Eclipse Ave., 1 story, 86x114 ft., brick garage, concrete fdn., day labor. F. H. Kemp, 312 Highland Ave., archt.

Wis., Waupun—FACTORY—National Rivet & Mid-State Mfg. Co., general contract 1 story, 54x121 ft., 35x118 ft., and 52x54 ft. factory bldgs., to Moore Bros., Waupun. CD 7/10—ENR 7/17.

Ont., Clabicoke—FACTORY—Ingram Canadian Clock Co., Queen Elizabeth Way, factory, to Gethouse Bros. Ltd., 989 Bay St., Toronto. About $50,000. J. B. Parkin, 1104 Bay St., Toronto, archt.

Ont., Gaalt — FACTORY — Canada Mchy. Corp., Concession St., 1 story, 50x120 ft., brick factory addn. to G. H. Thomas & Son, 45 Dickson St. Est. $45,000. Awarded 7/2.

Ont., Kitchener—PLANT—J. M. Schneider Ltd., 321 Courtland St., plant office building, to Bell Bros. Ltd., 33 King St. $64,000. CD 6/24.

Ont., Port Hope—PLANT—Port Hope Sanitory Mfg. Co. Ltd., Port Hope, altering plant, to B. Pennington & Son, Ontario St. $50,000. J. B. Lyle, 230 Bloor St. W., Toronto, archt.

★**Ont., Sarnia** — PLANT — Union Gas Co., S. A. Morse, mgr., 5 St., Chatham, plant to house reforming equip. and compressors, purifier building, gas holder, etc., own forces. $1,000,000. CD 6/10—ENR 6/12.

Ont., Toronto—PLANT—Small Electric Motors (Canada) Ltd., 67 Yonge St., 1 story, 80x140 ft., steel, brick plant addn., Vanderhoof Ave., Leaside, near here, to R. J. Hibbs Constr. Ltd., 15 Trent St. About $45,000. Marani & Morris, 46 Bloor St. W., archts.

Ont., Welland—PLANT—Atlas Steels, Main St., 1 story, 100x570 ft., steel metal covered, finishing steel plant addn., to Standard Steel Constr. Co., Port Robinson. Est. $75,000.

Ont., Windsor—PLANT—Ford Motor Co. of Canada, 2780 Sandwich St. E., W. K. Campbell, pres., 1 story, 65x225 ft., frame plant addn., own forces. $65,000. CD 5/23—ENR 5/29.

★**Que., Hull** — PLANT — E. B. Eddy Co., Ltd., Bridge St., W. S. Kidd, genl. mgr., acid plant, to Foundation Co. of Canada, Ltd., 1538 Sherbrooke St. W., Montreal. Est. $1,000,000.

Que., Longueil — PLANT — Fairchild Aircraft Ltd., exten. assembly plant, to Deakin and Stewart, 1440 St. Catherine St. W., Montreal. $41,795.

Que., Quebec City — WAREHOUSE, etc. — Syndicat de Quebec, Ltd., 215 St. Joseph St., 3 story, 44x55 ft., rein.-con. warehouse and tunnel, Blvd. Charest, to Amhot, Bouchard & Rinfret, 105 Cote de la Montagne. About $45,000.

Que., Wakefield — PLANT — Aluminum Co. of Canada, Ltd., Sun Life Bldg., Montreal, plant on Gatineau River, to Anglin-Norcross, Quebec, Ltd., 892 Sherbrooke St. W., Montreal, about $200,000.

OFFICIAL PROPOSALS

Official notices of bids wanted on construction and related work, equipment and material for government, state, municipal departments and private enterprises

RATE: THE RATE FOR OFFICIAL PROPOSAL ADVERTISING IS 50 CENTS PER LINE (OR FRACTION) PER INSERTION. COPY RECEIVED UP TO 12 NOON TUESDAY FOR ISSUE OUT THURSDAY SUBJECT TO SPACE OPEN FOR LAST-MINUTE ADS. SEND COPY TO OFFICIAL PROPOSAL DIVISION, ENGINEERING NEWS-RECORD, 330 W. 42ND ST., NEW YORK, N. Y.

Bids: July 30 (408)

State Highway Work

Sealed proposals will be received by the State Highway Department at its office, Dover, Del., until 2.00 P. M. E. S. T., July 30, 1941, and at that time and place publicly opened for contracts involving the following approximate quantities:

CONTRACT 675

St. Georges to Wrangle Hill
New Castle County
Widening and Reconstruction 1.101 Mi.
Federal Aid Project SN 49-A (5)

5,000	Cu. Yds. Excavation
100	Cu Yds. Excavation for Structures
575	Cu. Yds. P. C. C. Base Course
2,000	Tons Bituminous Concrete Surface Course
90	Cu. Yds. C. C. Base Course (Cr Control)
70	Cu. Yds. C. C. Masonry
2,140	Lbs. Reinforcing Steel
75	Lin. Ft. 12" R. C. Pipe
350	Lin. Ft 15" R. C. Pipe
12	Lin. Ft 18" R. C. Pipe
100	Lin. Ft. 8" Corr. Metal Pipe
400	Lin. Ft. Timber Piles
1,050	Sq. Yds. Cement Concrete Gutter
510	Lin. Ft. Wood Shoulder Curb
2	Catch Basins
1,000	Lbs. Castings
510	Lin. Ft. Wire Rope Guard Fence
6	End Post Attachments
450	Sq. Yds. Removal Present Pavement
200	Sq. Yds. Patching Base Course
100	Cu. Yds. Topsoil
4,500	Sq. Yds. Sodding

CONTRACT 768

Odessa to St. Georges
New Castle County
Widening and Reconstruction 6.146 Mi.
Federal Aid Project SN 85A (3) and SN 87A (4)

10,500	Cu. Yds. Unclassified Excavation
3,500	Cu. Yds. Selected Borrow
1,000	Cu. Yds. Borrow
35	Tons Br. Stone Base Course
3,050	Cu. Yds. P. C. C. Base Course
2,000	Sq. Yds. Topsoiling
9,500	Tons Bit. Cone Surface Course
1,310	Cu. Yds. Cement Concrete Pavement
200	Cu. Yds. C. C. Base Course (Cr Control)
608	Lin. Ft. S. D. T. E. Joint
1,172	Lin. Ft. Contraction Joint
12	Cu. Yds. Cement Concrete Masonry
300	Lbs. Reinforcing Steel
615	Lin. Ft. 12" R. C. Pipe
60	Lin. Ft. 15" R. C. Pipe
120	Lin. Ft. 18" R. C Pipe
60	Lin. Ft. 24" R. C. Pipe
45	Lin. Ft. 30" R. C. Pipe
15	Lin. Ft. 36" R. C. Pipe
125	Lin. Ft. 8" Corr. Metal Pipe
2,250	Sq. Yds. Cement Concrete Gutter
175	Lin. Ft. Cement Concrete Curb
1,200	Lin. Ft. Wood Shoulder Curb
700	Sq. Ft. Cement Concrete Sidewalk
2	Catch Basins
1,000	Lbs. Castings
1,200	Lin. Ft. Wire Rope Guard Fence
8	End Post Attachments
6,500	Sq. Yds. Removal Present Pavement
1,500	Sq. Yds. Patching Present Pavement
500	Cu. Yds. Topsoil
12,000	Sq. Yds. Sodding
510	Sqs Wire Mesh Reinforcement
200	Cu. Yds. Borrow Pit Stripping

These contracts will come under the provisions of the regular Federal Highway Act, as amended, and be construed under the Specifications of this Department dated April 1, 1941.

The employment Agency for contracts in New Castle County shall be the Employment Service Division of the Unemployment Compensation Commission, at 601 Shipley Street, Wilmington, Delaware; in Kent County, the Employment Service Division of the Unemployment Compensation Commission, Dover, Delaware; and in Sussex County, the Employment Service Division of the Unemployment Compensation Commission, Georgetown, Delaware. The minimum wages paid will be: for New Castle County, skilled labor 80c per hour; intermediate grade labor 50c per hour, and unskilled labor 35c per hour; for Kent and Sussex Counties, skilled labor 70c per hour; intermediate grade labor 40c per hour, and unskilled labor 30c per hour.

Attention is called to the Special Provisions in the proposal, specifications and contract agreement.

Performance of contract shall commence within ten (10) days after execution of the contract and be completed as specified.

Monthly payments will be made for 90 per cent of the construction completed each month.

Bidders must submit proposals upon forms provided by the Department.

Each proposal must be accompanied by a surety bond, certified check, or money to the amount of at least ten (10) per centum of the total amount of the proposal.

The envelope containing the proposal must be marked "Proposal for the construction of State Highway Contract No. ——."

The contract will be awarded or rejected within twenty (20) days from the date of opening proposals.

The right is reserved to reject any or all bids.

Complete sets of plans and specifications may be obtained after July 20, 1941, upon receipt of two dollars ($2.00) for each contract, which amount will not be refunded.

Make checks payable to the State Highway Department.

STATE HIGHWAY DEPARTMENT
By F. V. duPont, Chairman.
W. W. Mack, Chief Engineer.
Dover, Delaware.
July 2, 1941.

Bids: July 30 (404)

Warehouse and Factory Building

Sealed proposals will be received from licensed general contractors by the Board of Commissioners of the Port of New Orleans at their office, No. 2 Canal Street, New Orleans, La., until Wednesday, July 30, 1941, at 3:00 o'clock P. M., and then publicly opened for the construction of a one-story warehouse and factory building 440"x792" on the Board's property adjacent to the Turning Basin on the Inner Harbor Navigation Canal.

A deposit of $70,000 in cash or certified check, certified by an accredited officer of any accredited bank, or a cashier's check from an accredited bank, is required with each proposal.

A surety bond, in acceptable surety company, in the amount of 50% of the sum bid is required with notarial contract.

Specifications, plans, and proposal form are on file in the Board's office mentioned above. Complete sets will be furnished to prospective bidders on deposit of $50 for each set, which will be refunded to depositors who submit proposals with plans. Additional sets for estimating purposes will be furnished upon deposit of $50 per set, and $30 will be refunded on each set upon their return in good condition within 60 days.

The right is reserved to accept or reject any or all bids and to waive informalities, and to award the contract as the Board may determine to be for its best interests.

Marcel Gersaud,
General Manager.

Bids: August 6 (426)

State Highway Work

STATE DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
ALBANY, N. Y.

Sealed proposals will be received by the undersigned at the State Office building, 13th Floor, Albany, N. Y., until one o'clock p. m., advanced standard time, which is twelve o'clock noon, eastern standard time, on WEDNESDAY, AUGUST 6, 1941, for the following highway, bridge, and railroad grade crossing projects:

CONSTRUCTION

County	Deposit for plans	Bid deposit	Type	miles
Suffolk	$5	$6,000	Conc. & Misc. Work	1.10
			RAILROAD GRADE CROSSING	
Nassau	5	8,500	Conc. Arch	1.10
			60' Girder carrying R. R.	
			Concrete Pavt.	0.13
			RECONSTRUCTION	
Allegany	20	35,000	Conc. & Bar. Bit. Mac. M.M. Opt.	7.39
Rensselaer	5	1,900	46' Rigid Frame; Conc. Appr. & Misc. Work	0.08
Seneca	5	2,000	31½' Conc. Arch & Conc. Appr.	0.35
Washington	10	32,000	Concrete & Misc. Work	5.58

Maps, plans, specifications, and estimates may be obtained at the office of the Division of Highways, Albany, N. Y., and at the office of the District Engineers in whose districts the roads are located. The names and address of the District Engineers and counties in their district will be furnished upon request, and may be seen at the office of the State Department of Public Works, State Office Building, Worth and Center Streets, New York City.

The deposit for Plans and Proposal Forms for each contract containing 1 to 15 sheets is $5.00; 16 to 30 sheets, $10.00; over 30 sheets, $20.00. A refund will be made in full to bidders for return of one set, in good condition, within 30 days of award, or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

Special attention of bidders is called to "General Information for Bidders" in the proposal, specifications, and contract agreement, and to the special provisions applying to projects financed with federal funds.

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by cash, draft or certified check payable to the order of "State of New York, Division of the Treasury," for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instructions to Bidders."

When optional types are permitted on contracts with federal funds, bidders must state in the space provided in the proposal the exact designation of the optional type upon which the proposal is predicated.

Minimum Wage Rate per hour for above work shall be as follows:

County	Skilled Labor	Intermediate Grade Labor	Unskilled Labor
Allegany	$.75	$.55	$.45
Nassau	.75	.75	.75
Rensselaer	.75	.55	.50
Seneca	.75	.55	.50
Suffolk	.75	.75	.75
Washington	.75	.55	.50

UNLESS SHOWN OTHERWISE IN THE ITEMIZED PROPOSAL FOR EACH PROJECT.

The right is reserved to reject any or all bids.

A. W. BRANDT,
Supt. of Public Works.

ADS

(426)

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